<210>	2480	
<211>	37	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> cccaat	2480 ttcc attctcatta ttctccggaa gtaaatc	37
<210>	2481	
<211>	21	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> aggaga	2481 atga ggaaagaggc g	21
<210>	2482	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ccgtca	2482 egce tetgtettte ttege	25
<210>	2483	
<211>	16	
<212>	DNA	

<220>		
<223>	Synthetic	
<400> gctgca	2483 cege caecee	16
<210>	2484	
<211>	19	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> gcgaag	2484 aaag acagaggcg	19
<210>	2485	
<211>	28	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> aacgag	2485 gege actettetta tteteetg	28
<210>	2486	
<211>	28	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> aacgag	2486 gcgc actettetta tteteetg	28

<210>	2487	
<211>	23	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> gtctca	2487 aagt ccaccacagt ctc	23
<210>	2488	
<211>	22	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> caggaga	2488 aata agaagagtgc gc	22
<210>	2489	
<211>	26	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ccgtcac	2489 Egec tetettetta ttetee	26
<210>	2490	
<211>	26	
<212>	DNA	

<220>		
<223>	Synthetic	
<400> ccgtca	2490 acgcc totottotta ttotoo	26
<210>	2491	
<211>	23	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> gtctca	2491 aagt ccaccacagt ctc	23
<210>	2492	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ggagaa	2492 taag aagagaggcg	20
<210>	2493	
<211>	17	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2493	

tgggatgggt cctgggc

<210>	2494	
<211>	28	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> gaacgg	2494 cagg tttggcactc ttggcatt	28
<210>	2495	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2495 ggcg taggtettga	20
		20
<210>	2496	
<211>	23	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> aatgcca	2496 aaga gtgccaaacc tgc	23
<210>	2497	
<211>	17	
<212>	DNA	

<220>		
<223>	Synthetic	
<400> ggctct	2497 gtgc tgggcta	17
<210>	2498	
<211>	24	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ccgtca	2498 egec tecegaetec gtet	24
<210>	2499	
<211>	18	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> cgggtg	2499 cagc gcagcatt	18
<210>	2500	
<211>	18	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2500	

agacggagtc gggaggcg

<210>	2501	
<211>	29	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2501 cgcc tctgtcactt gatcgttct	29
ccgcca	egec telgicacti gategitet	۷.
<210>	2502	
<211>	29	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2502 cata aactccgtat tttagcaag	29
cggccc	cata adototogeat totageaag	
<210>	2503	
<211>	23	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2503 atca agtgacagag gcg	23
agaacy	acca agegacagag geg	۷.
<210>	2504	
<211>	31	
<212>	DNA	
<213>	Artificial Sequence	

<220>		
<223>	Synthetic	
<400> ccgccg	2504 agat cacgtgtcct acgtttagaa g	31
<210>	2505	
<211>	34	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> cacatg	2505 taca ataccetect geattttte aate	34
<210>	2506	
<211>		
<212>		
	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>		20
CTTCTA	aacg taggacacgt gatctcgg	28
<210>	2507	
<211>	27	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ccgtca	2507 cgcc tctcttctga atcttgc	27

2508	
21	
DNA	
Artificial Sequence	
Synthetic	
	21
2509	
21	
DNA	
Artificial Sequence	
Synthetic	
	21
2510	
21	
DNA	
Artificial Sequence	
	23
2511	
26	
DNA	
	2509 21 DNA Artificial Sequence Synthetic 2509 ttca gaagagagg g 2510 21 DNA Artificial Sequence Synthetic 2510 getc acacttctcg t 2511 26

<220>		
<223>	Synthetic	
<400> ccgtca	2511 egec tetettetga atettg	26
<210>	2512	
<211>	21	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ctggca	2512 cttg ttgcggttct a	21
<210>	2513	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> caagat	2513 tcag aagagaggcg	20
<210>	2514	
<211>	22	
<212>	AND	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> cagctg	2514 reget cacacttete gt	22

<210>	2515	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ccgtca	2515 egec tetettetga atett	25
<210>	2516	
<211>	22	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> cctggc	2516 actt gttgcggttc ta	22
<210>	2517	
<211>		
<212>	DNA	
<213>	Artificial Sequence	
<220>		
	Synthetic	
<400> gcagct	2517 gege teacaettet egt	23
<210>	2518	
<211>	27	
<212>	DNA	

<220>		
<223>	Synthetic	
<400> aacgagg	2518 gege aeggtaggea ttgtaga	27
<210>	2519	
<211>	31	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ccttct	2519 tttt ggtcatgttg aagtttttca c	31
<210>	2520	
<211>	21	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> tctaca	2520 atgc ctaccgtgcg c	21
<210>	2521	
<211>	21	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> tgtgct	2521 :tgga gaaggccttc a	21

<210>	2522	
<211>	27	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2522 cgcc tcgccacttg tttttca	27
3		
<210>	2523	
<211>	28	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ccatgo	2523 ccat aaagagcctt taacagga	28
<210>	2524	
<211>		
<212>		
<213>	Artificial Sequence	
<220>		
	Synthetic	
<400> tgaaaa	2524 aacaa gtggcgaggc g	2
010	2525	
<210>		
<211>		
<212>		
<213>	Artificial Sequence	

<220>		
<223>	Synthetic	
<400> ccgtca	2525 egec tetttatgec ttttgtga	28
<210>	2526	
<211>	29	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> tgccca	2526 ttag tccaacaaag gaatctgta	29
<210>	2527	
<211>	. 22	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> tcacaa	2527 aagg cataaagagg cg	22
<210>	2528	
<211>	27	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2528	27

gagatctgac catgcccata aagagcc

<210>	2529	
<211>	26	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
	2529 ggcgc acgctggcaa acttgt	26
-2105	2530	
<211>		
	DNA Artificial Sequence	
<2132	Artificial Sequence	
<220>		
<223>	Synthetic	
	2530	27
CCTT	ctgtc tttggagact tgcatca	21
<210>	2531	
<211	· 20	
<212	DNA	
<213	Artificial Sequence	
<220	•	
<223	Synthetic	
	2531 gtttgc cagcgtgcgc	20
	2522	
<210:		
<211:		
<212		
<213:	Artificial Sequence	

<220>		
<223>	Synthetic	
<400> acaacto	2532 ccat caacactgtg ctttgctg	28
<210>	2533	
<211>	26	
<212>	DNA	
<213>	Artificial Sequence	
12205		
<220>		
	Synthetic	
<400> aacgag	2533 gcgc actctaggaa gtggca	26
<210>	2534	
<211>	26	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> gtgctg	2534 ggca atatgtetgt agageg	26
<210>	2535	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2535 ttcc tagagtgcgc	20

tgccacttcc tagagtgcgc

<210>	2536	
<211>	17	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2536 ctgg aaggagc	17
500055	0055 44554	
<210>	2537	
<211>	27	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2537 yagat caccgtetea gtttggt	27
<210>		
<211>	36	
<212>		
<213>	Artificial Sequence	
<220>		
<223>		
<400> cgagta	2538 agtga catggtaaaa gttgtttgta ttggct	36
<210>	2539	
<211>	22	
<212>	DNA	
<213>	Artificial Sequence	

<220>		
<223>	Synthetic	
<400> accaaa	2539 ctga gacggtgatc tc	22
<210>	2540	
<211>	27	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ccgccg	2540 agat caccacgttc acgggtt	27
<210>	2541	
<211>	23	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> gggaga	2541 tcca gtccactaat cca	23
<210>	2542	
<211>	21	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
	Symthotic	
	Synthetic	
<400> aacccg	2542 tgaa cgtggtgatc t	21

<210>	2543	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2543 gtcg ggacttcagg	20
555400	5003 5540000455	20
<210>	2544	
<211>	34	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2544 Cagg tttggggaat tttctttatt tctt	34
<210>	2545	
<211>	21	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> attcct	2545 cege ecagggtgat g	21
		-
<210>	2546	
<211>	28	
<212>	DNA	

<220>		
<223>	Synthetic	
<400> aagaaa	2546 taaa gaaaattccc caaacctg	28
<210>	2547	
<211>	19	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>		
cttttg	tccc cagcagtgt	19
<210>	2548	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>		0.5
aacyay	gege aeggtggtgt tggga	25
<210>	2549	
<211>	23	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2549 tagc atcgcagagg tgt	23
Julia		43

<210>	2550	
<211>	19	
<212>	DNA	
<213>	Artificial Sequence	
	,	
<220>		
<223>	Synthetic	
<400> tcccaa	2550 cacc accgtgcgc	19
<210>	2551	
<211>	22	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> cagaggg	2551 gcac ggtgcatgtt gt	22
<210>		
<211>		
<212>		
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> gaacggo	2552 cagg tttgtcagca gaccgc	26
<210>	2553	
<211>	31	
<212>	DNA	

<220>		
<223>	Synthetic	
<400> gagagg	2553 ccaa agtgagacca tgtgaaagaa a	31
<210>	2554	
<211>	21	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> gcggtc	2554 tgct gacaaacctg c	21
<210>	2555	
<211>	19	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> catgga	2555 tegg catggeece	19
<210>	2556	
<211>	24	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2556	

aacgaggcgc acggtgtagg gggg

24

<210>	2557	
<211>	18	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2557 etca caggcaat	18
30000		10
<210>	2558	
<211>	18	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2558 caca ccgtgcgc	18
<210>		
<211>		
<212>		
<213>	Artificial Sequence	
<220>		
	Synthetic	
<400> ccgtca	egec tegteagtge etttte	26
<210>	2560	
<211>	23	
<212>	DNA	

<220>		
<223>	Synthetic	
<400> cacctg	2560 gegg atcactteca tgt	23
<210>	2561	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> gaaaagg	2561 gcac tgacgaggcg	20
<210>	2562	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ccgtca	2562 egec teceteatec teact	25
<210>	2563	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> actctg	2563 Jacto tgtgtcatag ctctt	25

<210>	2564	
<211>	19	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2564 gatg agggaggcg	19
5 5 5.		
<210>	2565	
<211>	27	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> aacgag	2565 gcgc acggttttct agtgtca	27
<210>		
<211>	24	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ctcact	2566 ctct ggcagcatct gaat	24
<210>	2567	
<211>		
<212>		
<213>	Artificial Sequence	

<220>		
<223>	Synthetic	
<400> tgacact	2567 caga aaaccgtgcg c	21
<210>	2568	
<211>	14	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> gctggc	2568 ccag ctgc	14
<210>	2569	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ccgccg	2569 agat cacggttatg cgctg	25
<210>	2570	
<211>	16	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2570 ggag gtggtc	16

ccagggggag gtggtc

<210>	2571	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2571 cata accgtgatct	20
godgog		
<210>	2572	
<211>	23	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ctcctc	2572 tttc agcttgatgc tgg	23
<210>	2573	
<211>	29	
<212>		
<213>	Artificial Sequence	
<220>		
	Synthetic	
<400> gaacgg	2573 cagg tttgggtggt ggttatgcg	29
<210>	2574	
<211>		
<212>		
<213>	Artificial Sequence	

<220>		
<223>	Synthetic	
<400> agaggg	2574 aaac atccaggggg ag	22
<210>	2575	
<211>	24	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> cgcata	2575 acca ccacccaaac ctgc	24
<210>	2576	
<211>	28	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ccgccg	2576 agat cacgagatgc tgtatccc	28
<210>	2577	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2577	

ggtcaggttg ctgaagacca tgttg

<210>	2578	
<211>	22	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> gggata	2578 cagc atctcgtgat ct	22
<210>	2579	
<211>	26	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ccgtca	2579 egec tetgageaca tecaeg	26
<210>	2580	
<211>	23	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> acatag	2580 tete tgeegetgte tta	23
<210>	2581	
<211>	20	
<212>	DNA	

<220>		
<223>	Synthetic	
	2581 patgtg ctcagaggcg	20
<210>	2582	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
	2582 agtgg ccaggteett	20
<210>	2583	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
	2583 gcagg tttgtcccaa ggcgg	25
<210>	2584	
<211>	28	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2584	

gtcaaggagc tttaggttta gctgttta

<210>	2585	
<211>	28	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> gtcaag	2585 gatc tttaggttta gctgttta	28
<210>	2586	
<211>	37	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> gtccca	2586 gttg tcaaggatct ttaggtttag ctgttta	37
<210>	2587	
<211>	19	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>		
<400> ccgcct	2587 tggg acaaacctg	19
<210>	2588	
<211>	27	
<212>	DNA	
<213>	Artificial Sequence	

<220>		
<223>	Synthetic	
<400> agcctt	2588 caaa ctgggacaca tagtete	27
<210>	2589	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
	Synthetic	
<400>		25
<210>	2590	
<211>	16	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
	Synthetic	
<400> ctcctg	2590 cete aggeeg	16
<210>	2591	
<211>	19	
<212>	DNA	
<213>	Artificial Sequence	
.000		
<220>	Grant and a	
	Synthetic	
<400> aaggag	2591 acag aggtgatct	19

<210>	2592	
<211>	22	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ttccag	2592 gtta tcccagaact cc	22
<210>	2593	
<211>	29	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> agaacg	2593 gcag tetttetgtt tteecaagg	29
<210>	2594	
<211>	28	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
	Synthetic	
<400> ccagtt	2594 Egtca aggagettta ggtttagt	28
<210>	2595	
<211>	23	
<212>	DNA	

<220>		
<223>	Synthetic	
<400> ccttggg	2595 gaaa acagaaagac tgc	23
<210>	2596	
<211>	27	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> cggagc	2596 cttc aaactgggac acatagt	27
<210>	2597	
<211>	31	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> agaaco	2597 ggcag totttagaat aggogatotg t	31
<210>	2598	
<211>	23	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
	Synthetic	
<400> cactca	2598 aggtc tatgcttgtg gct	23

<210>	2599	
<211>	23	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2599 cgcc tattctaaga ctg	23
acagac	ogeo caccodaga cog	
<210>	2600	
<211>	28	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> gggatg	2600 tcga acagctggag aagattct	28
<210>	2601	
<211>	35	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
	Synthetic	
<400> ccgtca	2601 cgcc tcctttacat tttctatcgt atccg	35
<210>		
<211>		
<212>	DNA	
<213>	Artificial Sequence	

<220>		
<223>	Synthetic	
<400> ccttcci	2602 ttat cctggatctt ggca	24
<210>	2603	
<211>	29	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
	Synthetic	
<400>		
<400> cggata	zeus Legat agaaaatgta aaggaggeg	29
<210>	2604	
<211>	35	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> cgccga	2604 agatc acctttacat tttctatcgt atccg	35
<210>	2605	
<211>	24	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
	Synthetic Synthetic	
<400>	· 2605 :cttat cctggatctt ggca	24

<210>	2606	
<211>	29	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> cggata	2606 cgat agaaaatgta aaggtgatc	29
<210>	2607	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> catctt	2607 cgcg gactggatet tggce	25
<210>	2608	
<211>	29	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> gctga	2608 tcagg aggaatteet teettatet	29
<210>	2609	
<211>	17	
<212>	DNA	

<213> Artificial Sequence

<220>		
<223>	Synthetic	
<400> ggccaag	2609 gatc cagtccg	17
<210>	2610	
<211>	34	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ctctct	2610 cgtc tcttacattt tctatcgtat ccga	34
<210>	2611	
<211>	34	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ctctct	2611 cgtc tctttacatt ttctatcgta tccg	34
<210>	2612	
<211>	35	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ctctct	2612 cegte teetttacat tttetategt ateeg	35

<	<210>	2613	
<	<211>	34	
	<212>	DNA	
•	<213>	Artificial Sequence	
	<220>		
	<223>	Synthetic	
	<400>	2613 cgtc tccctttaca ttttctatcg tatc	34
	<210>	2614	
	<211>	31	
	<212>	DNA	
	<213>	Artificial Sequence	
	<220>		
		Synthetic	
	<400> ctctct	2614 cgtc tcgcctttac attttctatc g	31
	<210>		
	<211>		
	<212>		
	<213>	Artificial Sequence	
	<220>		
		Synthetic	
	<400> ggaati	2615 coott cottatootg gatottga	28
	<210>	2616	
	<211>	29	
	<212>		
	<213>	Artificial Sequence	

<220>		
<223>	Synthetic	
<400> ggaatto	2616 cett cettateetg gatettgge	29
<210>	2617	
<211>	24	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ccttcc	2617 ttat cctggatctt ggca	24
<210>	2618	
<211>	23	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2618	23
ttcctt	atcc tggatcttgg cca	23
<210>	2619	
<211>	23	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
	2619 atcct ggatcttggc cta	23

<210>	2620	
<211>	28	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ccgtca	2620 cgcc tcccttctgg atgttgta	28
<210>	2621	
<211>	19	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2621 gcag ggttgacta	19
55		
<210>	2622	
<211>	22	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
	Synthetic	
<400> tacaa	2622 catcc agaagggagg cg	22
<210>	2623	
<211>	28	
<212>	DNA	
<213>	Artificial Sequence	

<220>		
<223>	Synthetic	
<400> cgccgag	2623 gatc accettetgg atgttgta	28
<210>	2624	
<211>	19	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ccaggt	2624 gcag ggttgacta	19
<210>	2625	
<211>	22	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> tacaac	2625 atcc agaagggtga tc	22
<210>	2626	
<211>	30	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2626 acgcc tcccttctgg atgttgtaat	30

<210>	2627	
<211>	19	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ccaggt	2627 gcag ggttgacta	19
<210>	2628	
<211>	24	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> attaca	2628 acat ccagaaggga ggcg	24
<210>	2629	
<211>	31	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> ccgtc	2629 acgcc tcccttctgg atgttgtaat c	31
<210>	2630	
<211>	19	
<212>	DNA	
<213>	Artificial Sequence	

<220>		
<223>	Synthetic	
<400> ccaggt	2630 gcag ggttgacta	19
<210>	2631	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
	2631 aaca tocagaaggg aggog	25
<210>	2632	
<211>	31	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> aacgag	2632 gege acatgttgta atcagagagg g	31
<210>	2633	
<211>	22	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
	Synthetic	
	Synthetic	
<400> tgcagg	2633 ggttg actetttetg ga	22

<210>	2634	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>		25
CCCTCT	ctga ttacaacatg tgcgc	23
<210>	2635	
<211>	28	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2635 cgcg gaccttctgg atgttgta	28
Cattle	cgcg gacceecgg acgeegea	
<210>	2636	
<211>	22	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2636 ggtg cagggttgac tt	22
ggacco	3363 6433366346 66	
<210>	2637	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	

<220>		
<223>	Synthetic	
<400> tacaaca	2637 atcc agaaggtccg	20
<210>	2638	
<211>	29	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400> catctt	2638 cgcg gacttcacgt tctcgatgg	29
<210>	2639	
<211>	24	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
	Synthetic	
<400> ccctct	2639 ttat cctggatctt ggca	24
<210>	2640	
<211>	23	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic	
<400>	2640 Jagaa cataaagtee geg	23

ccatcgagaa cgtgaagtcc gcg

<210> 2641

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2641

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln $85 \hspace{1.5cm} 90 \hspace{1.5cm} 95$

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185 190

Asn	ьeu	195	GIÀ	Val	пув	GIY	200	GIY	GIU	цув	1111	205	Arg	Lyb	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375		Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385		Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395		Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410		Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420		Glu	Gly	Glu	Glu 425		Leu	Leu	Trp	Leu 430		His
Glu	Val	Glu	Lys	Pro	Leu	Ser	Arg	Val	Leu	Ala	His	Met	Glu	Ala	Thr

GIY	Val 450	Arg	Leu	Asp	vaı	455	ıyr	Leu	GIN	Ата	160	ser	Leu	GIU	Leu

- Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly
 465 470 475 480
- His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe 485 490 495
- Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys Thr Gly Lys 500 505
- Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro 515 520 525
- Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn 530 535 540
- Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg 545 550 560
- Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser 565 570 575
- Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly 580 585 590
- Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val 595 600 605
- Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser 610 620
- Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His 625 630 635 640
- Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp
 645 650 655
- Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr 660 665 670
- Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 685

Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765

Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

His Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val 785 790 795 800

Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Gly His His His His His His 835

<210> 2642

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2642

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

- Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45
- Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60
- Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80
- Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95
- Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu 100 105 110
- Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125
- Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140
- Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160
- Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170 175
- Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185 190
- Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu 195 200 205
- Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg 210 215 220
- Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu 225 230 235 235
- Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu 245 250 255
- Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala 260 265 270
- Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu

Leu	G1u 290	Ser	Pro	Lys	Ala	Leu 295	GIU	GIU	Ala	Pro	300	Pro	Pro	Pro	GIU
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465	Glu	Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Ala	Leu	Gly 505	Lys	Thr	Gln	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro

Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn 530 535 Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg 550 560 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly 580 585 Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Gly Tyr 710 715 720 Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala 725 Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys

His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His His 835

<210> 2643

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2643

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys

Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu

Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Gly Pro Ser 370 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr 390 385 395 400 Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His 420 Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly 470 465 475 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe 485 Asp Glu Leu Gly Leu Pro Ala Ile Gly Lys Thr Glu Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg 545 550 555 560 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser 565 575 Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly 580 Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val

Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser

610

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His 625 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr 720 715 710 Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala 725 730 Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 790 785 Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys Glu His His His His His 835 <210> 2644 <211> 839

<212> PRT

<220>

<223> Synthetic

<400> 2644

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185 190

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu 195 200 205 Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg 210 Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu

235

Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu 245 250 255

230

- Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala 260 265 270
- Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu 275 280 285
- Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu 290 295 300
- Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala 305 310 315
- Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala 325 330 335
- Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu 340 345
- Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu 355 360 365
- Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser 370 375 380
- Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr 385 390 395 400
- Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn 405 410 415
- Leu Trp Gly Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg 420 425 430
- Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr 435 440 445
- Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu 450 455 460

- Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly 465 470 475 480
- His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe 485 490 495
- Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys Thr Gly Lys
 500 505 510
- Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro 515 520 525
- Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn 530 535 540
- Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg 545 550 555 560
- Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser 565 570 575
- Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly 580 585 590
- Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val 595 600 605
- Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser 610 615 620
- Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His 625 630 635
- Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp 645 650 655
- Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr 660 665 670
- Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 685
- Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
- Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Gly Tyr

Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 775 780

His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His His 835

<210> 2645

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2645

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
1 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

- Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60
- Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80
- Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95
- Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu 100 105 110
- Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125
- Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140
- Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160
- Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170 175
- Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185 190
- Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu 195 200 205
- Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg 210 215 220
- Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu 225 230 235 240
- Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu 245 250 255
- Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala 260 265 270
- Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu 275 280 285
- Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu 290 295 300

305	Ala	Phe	Val	GIY	310	vai	Leu	ser	Arg	315	GIU	PIO	Mec	ΙΙĐ	320
Asp	Leu	Leu	Ala	L eu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Pro	Glu	Pro	Tyr 340	Lys	Ala	Leu	Arg	Asp 345	Leu	Lys	Glu	Ala	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ser	Val	Leu 360	Ala	Leu	Arg	Glu	Gly 365	Leu	Gly	Leu
Pro	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asr
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thi
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455		Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Lev
Ala 465		Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475		Arg	Leu	Ala	Gl ₃ 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490		Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500		. Pro	Ala	Leu	Gly 505		Thr	Gln	Lys	Thr 510	Gly	Ly
Arg	Ser	Thr 515		Ala	Ala	Val	Leu 520	Glu	ı Ala	Leu	Arg	Glu 525		His	Pro
Ile	Val 530		Lys	Ile	e Leu	Gln 535		Arg	, Glu	. Leu	Thr 540		Leu	Lys	As
The	. Т	17-1	7. ~~	Dro	. T.e.11	Dro	Car	T.O.	. Wal	Hie	Pro	Δτο	Thr	Glv	ΔΥ

Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser 565 570 575

Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly 580 585 590

Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val 595 600 605

Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser 610 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His 625 630 635 640

Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr 660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 685

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800 Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His His 835

<210> 2646

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2646

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys

Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315		Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325		Ala	Ala	Arg	Gly 330		Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345		Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355		Leu	Ala	Val	Leu 360		Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370		Asp	Asp	Pro	Met 375		Leu	Ala	Tyr	Leu 380		Gly	Pro	Ser
Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly	Glu	Trp	Thr

Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn 405 410 415

Leu Trp Gly Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg
420 425 430

Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr 435 440 445

Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val 450 455 460

Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly 465 470 475 480

His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
485 490 495

Asp Glu Leu Gly Leu Pro Ala Ile Gly Lys Thr Glu Lys Thr Gly Lys
500 505 510

Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro 515 520 525

Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser 530 535 540

Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg 545 550 555 560

Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser 565 570 575

Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly 580 585 590

Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val 595 600 605

Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser 610 615 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His 625 630 635 640

Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr 660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 685

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Gly Tyr 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His His 835

<210> 2647

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2647

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 215 220

Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Сув	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg 485 Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys 505 Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys 535 Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly 565 570 Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 580 590 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp 595 Leu Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 615 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg 625 635 Asp Ile His Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu 650 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly 660 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 695 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg

Arq Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp

725 730 735

Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu 770 775 780

Leu Gln Val His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala 785 790 795 800

Glu Ala Val Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Glu His His His His His His 835 840

<210> 2648

<211> 833

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2648

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val 65	Val	Phe	Asp	Ala	Lys 70	Ala	Pro	Ser	Phe	Arg 75	His	Glu	Ala	Tyr	Gly 80
Gly	Tyr	Lys	Ala	Gly 85	Arg	Ala	Pro	Thr	Pro 90	Glu	Asp	Phe	Pro	Arg 95	Gln
Leu	Ala	Leu	Ile 100	Lys	Glu	Leu	Val	Asp 105	Leu	Leu	Gly	Leu	Ala 110	Arg	Leu
Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275		Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290		Pro	Lys	Ala	Leu 295		Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305		Phe	Val	Gly	Phe	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320

Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465	Glu	Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Ala	Leu	Gly 505	Lys	Thr	Gln	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	His	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Asn
Thr 545	Tyr	Val	Asp	Pro	Leu 550	Pro	Ser	Leu	Val	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	Ala	Thr	Ala	Thr	Gly	Arg	Leu	Ser

Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	GIY
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Val 600	Ala	Glu	Ala	Gly	Trp 605	Ala	Leu	Val

Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser 610 615 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His 625 630 635 640

Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp
645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr 660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 685

Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 775 780

His Asp Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val 785 790 795 800

Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val 805 810 815 Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Gly

<210> 2649

<211> 833

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2649

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Gly Leu Ala Arg Leu
100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160

Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glụ 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His	Arg	Ala	Leu	Leu	Ser	Glu	Arg	Leu	His	Arg	Asn

Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu	GIu	Lys	Leu	Leu	Trp	ьeu	Tyr	HIS
		-	420			_		425					430		

- Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr 435 440 445
- Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu 450 455 460
- Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly 465 470 475 480
- His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe 485 490 495
- Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys Thr Gly Lys 500 505 510
- Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro 515 520 525
- Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn 530 535 540
- Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg 545 550 555 560
- Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser 565 570 575
- Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly 580 585 590
- Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val 595 600 605
- Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser 610 615 620
- Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His 625 630 635 640
- Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp 645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr 660 665 Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 760 Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val His Asp Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys

Glu

<210> 2650

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2650

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu

1 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185 190

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu 195 200 205

Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg 210 215 220

Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu 225 230 235 240

Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Pro	Glu	Pro	Tyr 340	Lys	Ala	Leu	Arg	Asp 345	Leu	Lys	Glu	Ala	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ser	Val	Leu 360	Ala	Leu	Arg	Glu	Gly 365	Leu	Gly	Leu
Pro	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Glu	Ala	Gly	His 405	Arg	Ala	Ala	Leu	Ser 410	Glu	Arg	Leu	Phe	Ala 415	Asn
Leu	Trp	Gly	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Arg	Leu	Leu	Trp	Leu 430	Tyr	Arg
Glu	Val	Glu 435		Pro	Leu	Ser	Ala 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	_	Leu	Asp	Val	Ala 455		Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465		Glu	Ile	Arg	Arg 470		Glu	Glu	Glu	Val 475		Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485		Ser	Arg	Asp	Gln 490		Glu	Arg	Val	Leu 495	Phe

Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys Thr Gly Lys 500 505 Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly 580 585 Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val 595 600 605 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser 610 615 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His 625 630 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 680 675 Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His His 835

<210> 2651

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2651

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly	Tyr	Lys	Ala	Gly 85	Arg	Ala	Pro	Thr	Pro 90	Glu	Asp	Phe	Pro	Arg 95	Gln
Leu	Ala	Leu	Ile 100	Lys	Glu	Leu	Val	Asp 105	Leu	Leu	Gly	Leu	Ala 110	Arg	Leu
Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu	Ala	Ala	Ala	Arg	Gly	Gly	Arg	Val	His	Arg	Ala

Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu 345 Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser 375 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr 395 Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu His Arg Asn Leu Trp Gly Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg 430 420 425 Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr 435 Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu 450 Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly 475 465 470 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys Thr Gly Lys 500 505 Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro 515

The Tur Val Age Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg

Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg 545 550 555 560

Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser 565 570 575

Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly

- Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val 595 600 605
- Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser 610 625
- Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His 625 630 635
- Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
 645 650 655
- Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr 660 665 670
- Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 685
- Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 695 700
- Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Gly Tyr 705 710 715 720
- Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala 725 730 735
- Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750
- Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765
- Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780
- His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800
- Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815
- Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His 835

<210> 2652

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2652

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu

1 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170 175

PIO	Asp	GIII	180	AIA	vah	T Y L	nrg	185	LCu	1111	Cry	nop	190	501	
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Pro	Glu	Pro	Tyr 340	Lys	Ala	Leu	Arg	Asp 345	Leu	Lys	Glu	Ala	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ser	Val	Leu 360	Ala	Leu	Arg	Glu	Gly 365	Leu	Gly	Leu
Pro	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Glu	Ala	Gly	Glu 405	Arg	Ala	Ala	Leu	Ser 410	Glu	Arg	Leu	Phe	Ala 415	Asn
Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu	Glu	Arg	Leu	Leu	Trp	Leu	Tyr	Arg

Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr 435 440 445

Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu 450 460

Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly 465 470 475 480

His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
485 490 495

Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys Thr Gly Lys 500 505 510

Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro 515 520 525

Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn 530 540

Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg 545 550 555 560

Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser 565 570 575

Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly 580 585 590

Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val 595 600 605

Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser 610 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His 625 630 635

Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp 645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr 660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 685

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Gly Tyr 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His 835

<210> 2653

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2653

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

- Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30
- Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45
- Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60
- Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80
- Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95
- Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu 100 105 110
- Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125
- Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140
- Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160
- Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170 175
- Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185 190
- Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu 195 200 205
- Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg 210 215 220
- Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu 225 230 235 240
- Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu 245 250 255
- Val Asp Phe Ala Lys Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala

Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Pro	Glu	Pro	Tyr 340	Lys	Ala	Leu	Arg	Asp 345	Leu	Lys	Glu	Ala	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ser	Val	Leu 360	Ala	Leu	Arg	Glu	Gly 365	Leu	Gly	Leu
Pro	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu.	Glu	Ala	Gly	Glu 405	Arg	Ala	Ala	Leu	Ser 410	Glu	Arg	Leu	Phe	Ala 415	Asn
Leu	Trp	Gly	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Arg	Leu	Leu	Trp	Leu 430	Tyr	Arg
Glu	Val	Glu 435	Arg	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465	Glu	Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Ala	Leu	Gly 505	Lys	Thr	Gln	Lys	Thr 510	Gly	Lys

Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	His	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Asn
Thr 545	Tyr	Val	Asp	Pro	Leu 550	Pro	Ser	Leu	Val	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Arg	Asp	Ile	His 640
Thr	Glu	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Arg	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Ile	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
Glu	Ala 690	Gln	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Val
Arg 705	Ala	Trp	Ile	Glu	Lys 710	Thr	Leu	Glu	Glu	Gly 715	Arg	Arg	Arg	Gly	Tyr 720
Val	Glu	Thr	Leu	Phe 725	Gly	Arg	Arg	Arg	Tyr 730	Val	Pro	Asp	Leu	Glu 735	Ala
Arg	Val	Lys	Ser 740	Val	Arg	Glu	Ala	Ala 745	Glu	Arg	Met	Ala	Phe 750	Asn	Met
Pro	Val	Gln 755	Gly	Thr	Ala	Ala	Asp 760	Leu	Met	Lys	Leu	Ala 765	Met	Val	Lys

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His 835

<210> 2654

<211> 839

<212> PRT

. <213> Artificial Sequence

<220>

<223> Synthetic

<400> 2654

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu

- Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125
- Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140
- Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160
- Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170 175
- Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185 190
- Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu 195 200 205
- Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg 210 215 220
- Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu 225 230 235 240
- Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu 245 250 255
- Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala 260 265 270
- Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu 275 280 285
- Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Glu 290 295 300
- Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala 305 310 315 320
- Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala 325 330 335
- Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu 340 345 350

Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu 355 360 Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Gly Pro Ser 370 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn 405 410 Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val 455 Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Gly Leu Pro Ala Ile Gly Lys Thr Glu Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser 530 535 540 Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg 545 550 560 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser 565 570 Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val 595 600

Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser 610 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His 625 630 635 640

Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr 660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 685

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His His 835

<210> 2655

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2655

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185 190

Asn	Leu	Pro 195	GIY	Val	Lys	GIY	11e 200	GIA	Glu	Lys	Thr	A1a 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr

GIÀ	450	Arg	Leu	Asp	Val	A1a 455	Tyr	Leu	GIn	Ala	Leu 460	Ser	Leu	Glu	Va.
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Gly 500	Leu	Pro	Ala	Ile	Gly 505	Lys	Thr	Glu	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Sei
Thr 545	Tyr	Ile	Asp	Pro	Leu 550	Pro	Asp	Leu	Ile	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Va]
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Sei
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Arg	Asp	Ile	His 640
Thr	Glu	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Arg	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Ile	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
Glu	Ala	Gln	Ala	Phe	Ile	Glu	Arg	Tyr	Phe	Gln	Ser	Phe	Pro	Lys	Val

690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His His 835

<210> 2656

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2656

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

GIY	Leu	Thr 35	Thr	Ser	Arg	GIY	GIu 40	Pro	Val	GIn	Ala	Val 45	Tyr	Gly	Phe
Ala	Lys 50	Ser	Leu	Leu	Lys	Ala 55	Leu	Lys	Glu	Asp	Gly 60	Asp	Ala	Val	Ile
Val 65	Val	Phe	Asp	Ala	Lys 70	Ala	Pro	Ser	Phe	Arg 75	His	Glu	Ala	Tyr	Gly 80
Gly	Tyr	Lys	Ala	Gly 85	Arg	Ala	Pro	Thr	Pro 90	Glu	Asp	Phe	Pro	Arg 95	Gln
Leu	Ala	Leu	Ile 100	Lys	Glu	Leu	Val	Asp 105	Leu	Leu	Gly	Leu	Ala 110	Arg	Leu
Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu

Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Gly 500	Leu	Pro	Ala	Ile	Gly 505	Lys	Thr	Glu	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val	Glu	Lys	Ile	Leu	Gln	Tyr	Arg	Glu	Leu	Thr	Lys	Leu	Lys	Ser

Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg 555 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly 585 Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser 610 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His 625 630 635 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp 645 Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 685 Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Gly Tyr 705 Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 760 Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His His 835

<210> 2657

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2657

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu
100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120

Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro	Gly	Asp	Asp	Pro	Met	Leu	Leu	Ala	Tyr	Leu	Leu	Gly	Pro	Ser

Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val
Ala 465	Glu	Glu	Ile	Arg	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Gly 500	Leu	Pro	Ala	Ile	Gly 505	Lys	Thr	Glu	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Ser
Thr 545	Tyr	Ile	Asp	Pro	Leu 550	Pro	Asp	Leu	Ile	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Àla	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser

625 630 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 680 Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr 705 710 Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys Glu His His His His His 835 2658 <210> <211> 839

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His

<212> PRT

<220>

<223> Synthetic

<400> 2658

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu

1 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185 190

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu 195 200 205

Leu	G1u 210	GIu	Trp	GIY	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val

Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	Ala	Gl ₃
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Gly 500	Leu	Pro	Ala	Ile	Gly 505	Lys	Thr	Glu	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Sei
Thr 545	Tyr	Ile	Asp	Pro	Leu 550	Pro	Asp	Leu	Ile	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Sei
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Glγ
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Va]
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Arg	Asp	Ile	His 640
Thr	Glu	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Arg	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Ile	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
Glu	Ala 690	Gln	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Val
Ara	Ala	Trp	Ile	Glu	Lvs	Thr	Leu	Glu	Glu	Glv	Ara	Ara	Ara	Glv	Туг

Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His His 835

<210> 2659

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2659

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40

Ala	Lys 50	Ser	Leu	Leu	Lys	Ala 55	Leu	Lys	Glu	Asp	Gly 60	Asp	Ala	Val	Ile
Val 65	Val	Phe	Asp	Ala	Lys 70	Ala	Pro	Ser	Phe	Arg 75	His	Glu	Ala	Tyr	Gly 80
Gly	Tyr	Lys	Ala	Gly 85	Arg	Ala	Pro	Thr	Pro 90	Glu	Asp	Phe	Pro	Arg 95	Gln
Leu	Ala	Leu	Ile 100	Lys	Glu	Leu	Val	Asp 105	Leu	Leu	Gly	Leu	Ala 110	Arg	Leu
Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu

305	Ala	FIIC	vai	GIY	310	Val	ьец	ser	AIG	315	GIU	PIO	мес	тър	320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asr
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Ala	Ile	Gly 505	Lys	Thr	Glu	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Ser
Thr	Tyr	Ile	Asp	Pro	Leu	Pro	Asp	Leu	Ile	His	Pro	Arg	Thr	Gly	Arg

Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser 565 570 575

Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly 580 585 590

Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val 595 600 605

Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser 610 615 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His 625 630 635 640

Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr 660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 685

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Gly Tyr 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800 Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His 835

<210> 2660

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2660

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140

Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
	370			Asp		375					380				
Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly	Glu	Trp	Thr

Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn 405 410 415

Leu Leu Lys Arg Leu Glu Glu Glu Glu Lys Leu Leu Trp Leu Tyr His
420 425 430

Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr 435 440 445

Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val 450 460

Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly 465 470 475 480

His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
485 490 495

Asp Glu Leu Gly Leu Pro Ala Ile Gly Lys Thr Gln Lys Thr Gly Lys
500 505 510

Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro 515 520 525

Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser 530 535 540

Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg 545 550 555 560

Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser 565 570 575

Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly 580 585 590

Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val 595 600 605

Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser 610 615 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His 625 630 635 640 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr 660 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 685

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Gly Tyr 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His His 835

<210> 2661

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2661

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185 190

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu 195 200 205

Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg 210 215 220

Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480

His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Gly 500	Leu	Pro	Ala	Ile	Gly 505	Lys	Thr	Glu	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	His	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Ser
Thr 545	Tyr	Ile	Asp	Pro	Leu 550	Pro	Asp	Leu	Ile	His 555	Pro	Arg	Thr	Gly	Arc 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Va]
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Arg	Asp	Ile	His 640
Thr	Glu	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Arg	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Ile	Asn	Phe	Gly	Val 670	Leu	Туг
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
Glu	Ala 690	Gln	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Va]
Arg 705	Ala	Trp	Ile	Glu	Lys 710	Thr	Leu	Glu	Glu	Gly 715	Arg	Arg	Arg	Gly	Туг 720
Val	Glu	Thr	T.e.11	Dhe	Glar	Ara	Δνα	Δκα	Тъгъ	V-1	Dro	Aen	T.011	Glu	Δ] -

725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His 835

<210> 2662

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2662

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val 65	Val	Phe	Asp	Ala	Lys 70	Ala	Pro	Ser	Phe	Arg 75	His	Glu	Ala	Tyr	Gly 80
Gly	Tyr	Lys	Ala	Gly 85	Arg	Ala	Pro	Thr	Pro 90	Glu	Asp	Phe	Pro	Arg 95	Gln
Leu	Ala	Leu	Ile 100	Lys	Glu	Leu	Val	Asp 105	Leu	Leu	Gly	Leu	Ala 110	Arg	Leu
Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320

Asp	Leu	Leu	АТА	325	Ala	АТА	Ala	Arg	330	GIY	Arg	Val	nis	335	Ald
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Ph∈
Asp	Glu	Leu	Gly 500	Leu	Pro	Ala	Ile	Gly 505	Lys	Thr	Glu	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Asr
Thr 545	Tyr	Ile	Asp	Pro	Leu 550	Pro	Asp	Leu	Ile	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	Ala	Thr	Ala	Thr	Gly	Arg	Leu	Ser

Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Arg	Asp	Ile	His 640
Thr	Glu	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Arg	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Ile	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
Glu	Ala 690	Gln	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Val
Arg 705	Ala	Trp	Ile	Glu	Lys 710	Thr	Leu	Glu	Glu	Gly 715	Arg	Arg	Arg	Gly	Tyr 720
Val	Glu	Thr	Leu	Phe 725	Gly	Arg	Arg	Arg	Tyr 730	Val	Pro	Asp	Leu	Glu 735	Ala
Arg	Val	Lys	Ser 740	Val	Arg	Glu	Ala	Ala 745	Glu	Arg	Met	Ala	Phe 750	Asn	Met
Pro	Val	Gln 755	Gly	Thr	Ala	Ala	Asp 760	Leu	Met	Lys	Leu	Ala 765	Met	Val	Lys
Leu	Phe 770	Pro	Arg	Leu	Glu	Glu 775	Met	Gly	Ala	Arg	Met 780	Leu	Leu	Gln	Val
His 785	Asn	Glu	Leu	Val	Leu 790	Glu	Ala	Pro	Lys	Glu 795	Arg	Ala	Glu	Ala	Val 800
Ala	Arg	Leu	Ala	Lys 805	Glu	Val	Met	Glu	Gly 810	Val	Tyr	Pro	Leu	Ala 815	Val

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His 835

<210> 2663

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2663

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160

GIY	TYE	Leu	iie	165	Pro	Ala	Trp	Leu	170	Glu	Lys	Tyr	· Gly	Leu 175	
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185		Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400

Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn

Leu	Leu	Lys	Arg 420	Leu	GIu	GIY	GIu	425	ьуs	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Va]
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gl ₃ 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Gly 500	Leu	Pro	Ala	Ile	Gly 505	Lys	Thr	Glu	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Ser
Thr 545	Tyr	Val	Asp	Pro	Leu 550	Pro	Asp	Leu	Ile	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	GlΣ
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Va]
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Sei

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His

Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp 645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr 660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 685

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His 835

<210> 2664

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2664

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu 195 200 205

Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg 210 215 220

Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu 225 230 235 240

Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490		Glu	Arg	Val	Leu 495	Phe

Asp	GIU	Leu	500	Leu	Pro	Ala	11e	505	ьуs	Thr	GIU	гÀг	510	GIA	ьys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Sei
Thr 545	Tyr	Ile	Asp	Pro	Leu 550	Pro	Ser	Leu	Val	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Sei
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Sei
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Arg	Asp	Ile	His 640
Thr	Glu	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Arg	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Ile	Asn	Phe	Gly	Val 670	Leu	Туз
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glı
Glu	Ala 690	Gln	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Val
Arg 705	Ala	Trp	Ile	Glu	Lys 710	Thr	Leu	Glu	Glu	Gly 715	Arg	Arg	Arg	Gly	Туз 720
Val	Glu	Thr	Leu	Phe 725	Gly	Arg	Arg	Arg	Tyr 730	Val	Pro	Asp	Leu	Glu 735	Ala
Arg	Val	Lys	Ser	Val	Arg	Glu	Ala	Ala	Glu	Arg	Met	Ala	Phe	Asn	Met

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His 835

<210> 2665

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2665

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 105 Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly 165 Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu 245 Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly 260 265 270 Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu 275 Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Ala Pro Trp Pro 290 295 Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro 305 Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Asp Gly Arg Val 325 330

HIS	arg	Ата	340	Asp	PIO	ьеи	Ala	345	ьеu	гуз	Asp	Deu	350	GIU	vai
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arc 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Gly	Lys	Thr 510	Gln	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gl
Arg	Leu	Ser	Ser	Ser	Asp	Pro	Asn	Leu	Gln	Asn	Ile	Pro	Val	Arg	Thi

580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 630 Asp Ile Ala Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 720 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp 725 Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 760 Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu

Leu Gln Val His Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835

<210> 2666

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2666

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly 165 170 175

ьеи	Arg	PIO	180	GIII	110	vai	vah	185	nrg	AIG	Dea	vai	190	nop	110
Ser	Asp	Asn 195	Leu	Pro	Gly	Val	Lys 200	Gly	Ile	Gly	Glu	Lys 205	Thr	Ala	Leu
Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
385	Pro				390					395					400
	Trp			405					410					415	
His	Arg	Asn	Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu	Glu	Lys	Leu	Leu	Trp

420	425	430

Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Gly	Lys	Thr 510	Gln	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
Pro	Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp
Ala	Leu 610	Val	Ala	Leu	Asp	Tyr 615	Ser	Gln	Ile	Glu	Leu 620	Arg	Val	Leu	Ala
His 625	Leu	Ser	Gly	Asp	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Lys 640
Asp	Ile	His	Thr	Gln 645	Thr	Ala	Ser	Trp	Met 650	Phe	Gly	Val	Pro	Pro 655	Glu
Ala	Val	Asp	Pro 660	Leu	Met	Arg	Arg	Ala 665	Ala	Lys	Thr	Val	Asn 670	Phe	Gly

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp 725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Ala Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 780

Leu Gln Val His Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835 840

<210> 2667

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2667

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 . 10 15

Leu	Leu	vai	20	GIY	HIS	HIS	Leu	25	ıyr	Arg	Int	Pne	30	Ala	neu
Lys	Gly	Leu 35	Thr	Thr	Ser	Arg	Gly 40	Glu	Pro	Val	Gln	Ala 45	Val	Tyr	Gly
Phe	Ala 50	Lys	Ser	Leu	Leu	Lys 55	Ala	Leu	Lys	Glu	Asp 60	Gly	Tyr	Lys	Ala
Val 65	Phe	Val	Val	Phe	Asp 70	Ala	Lys	Ala	Pro	Ser 75	Phe	Arg	His	Glu	Ala 80
Tyr	Glu	Ala	Tyr	Lys 85	Ala	Gly	Arg	Ala	Pro 90	Thr	Pro	Glu	Asp	Phe 95	Pro
Arg	Gln	Leu	Ala 100	Leu	Ile	Lys	Glu	Leu 105	Val	Asp	Leu	Leu	Gly 110	Phe	Thr
Arg	Leu	Glu 115	Val	Pro	Gly	Tyr	Glu 120	Ala	Asp	Asp	Val	Leu 125	Ala	Thr	Leu
Ala	Lys 130	Lys	Ala	Glu	Lys	Glu 135	Gly	Tyr	Glu	Val	Arg 140	Ile	Leu	Thr	Ala
Asp 145	Arg	Asp	Leu	Tyr	Gln 150	Leu	Val	Ser	Asp	Arg 155	Val	Ala	Val	Leu	His 160
Pro	Glu	Gly	His	Leu 165	Ile	Thr	Pro	Glu	Trp 170	Leu	Trp	Glu	Lys	Tyr 175	Gly
Leu	Arg	Pro	Glu 180	Gln	Trp	Val	Asp	Phe 185	Arg	Ala	Leu	Val	Gly 190	Asp	Pro
Ser	Asp	Asn 195	Leu	Pro	Gly	Val	Lys 200	Gly	Ile	Gly	Glu	Lys 205	Thr	Ala	Leu
Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val	Asp	Leu	Ala	Gln	Gly	Arg	Glu	Pro	Asp	Arg	Glu	Gly

ьeu	Arg	275	Pne	Leu	GIU	Arg	280	GIU	Pne	GIY	ser	285	теп	птр	GIU
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Gly	Lys	Thr 510	Gln	Lys

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu 515 520 Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys 530 Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly 565 570 Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 585 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 615 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 720 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp 725 Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835 840

<210> 2668

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2668

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr

Arg	Leu	Glu 115	Val	Pro	Gly	Tyr	Glu 120	Ala	Asp	Asp	Val	Leu 125	Ala	Thr	Leu
Ala	Lys 130	Lys	Ala	Glu	Lys	Glu 135	Gly	Tyr	Glu	Val	Arg 140	Ile	Leu	Thr	Ala
Asp 145	Arg	Asp	Leu	Tyr	Gln 150	Leu	Val	Ser	Asp	Arg 155	Val	Ala	Val	Leu	His 160
Pro	Glu	Gly	His	Leu 165	Ile	Thr	Pro	Glu	Trp 170	Leu	Trp	Glu	Lys	Tyr 175	Gly
Leu	Arg	Pro	Glu 180	Gln	Trp	Val	Asp	Phe 185	Arg	Ala	Leu	Val	Gly 190	Asp	Pro
Ser	Asp	Asn 195	Leu	Pro	Gly	Val	Lys 200	Gly	Ile	Gly	Glu	Lys 205	Thr	Ala	Leu
Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val

Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	160 360	Ala	vai	Leu	Ala	365	Arg	GIU	GIY
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Lys	Lys	Thr 510	Lys	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535		Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545		Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555		Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565		Arg	Phe	Asn	Gln 570		Ala	Thr	Ala	Thr 575	Gly
			580					585					Val 590		
Pro	Leu	Gly		Arg	Ile	Arg	Arg		Phe	Val	Ala	Glu 605	Ala	Gly	Trp

Ala	Leu 610	Val	Ala	Leu	Asp	Tyr 615	Ser	Gln	Ile	Glu	Leu 620	Arg	Val	Leu	Ala
His 625	Leu	Ser	Gly	Asp	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Lys 640
Asp	Ile	His	Thr	Gln 645	Thr	Ala	Ser	Trp	Met 650	Phe	Gly	Val	Pro	Pro 655	Glu
Ala	Val	Asp	Pro 660	Leu	Met	Arg	Arg	Ala 665	Ala	Lys	Thr	Val	Asn 670	Phe	Gly
Val	Leu	Tyr 675	Gly	Met	Ser	Ala	His 680	Arg	Leu	Ser	Gln	Glu 685	Leu	Ala	Ile
Pro	Tyr 690	Glu	Glu	Ala	Val	Ala 695	Phe	Ile	Glu	Arg	Tyr 700	Phe	Gln	Ser	Phe
Pro 705	Lys	Val	Arg	Ala	Trp 710	Ile	Glu	Lys	Thr	Leu 715	Glu	Glu	Gly	Arg	Lys 720
Arg	Gly	Tyr	Val	Glu 725	Thr	Leu	Phe	Gly	Arg 730	Arg	Arg	Tyr	Val	Pro 735	Asp
Leu	Asn	Ala	Arg 740	Val	Lys	Ser	Val	Arg 745	Glu	Ala	Ala	Glu	Arg 750	Met	Ala
Phe	Asn	Met 755	Pro	Val	Gln	Gly	Thr 760	Ala	Ala	Asp	Leu	Met 765		Leu	Ala
Met	Val 770		Leu	Phe	Pro	Arg 775		Arg	Glu	Met	Gly 780		Arg	Met	Leu
Leu 785	Gln	Val	Ala	Asn	Glu 790		Leu	Leu	Glu	Ala 795		Gln	Ala	Arg	Ala 800
Glu	Glu	Val	Ala	Ala 805		Ala	Lys	Glu	Ala 810		Glu	Lys	Ala	Tyr 815	
Leu	Ala	Val	Pro 820		Glu	Val	Glu	Val 825		Met	Gly	Glu	Asp 830		Leu
Ser	Ala	Lys 835	Gly	His	His	His	His		His	.					

<210> 2669

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2669

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190

Ser	Asp	Asn 195	Leu	Arg	Gly	Val	Arg 200	Gly	Ile	Gly	Glu	Lys 205	Thr	Ala	Leu
Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His		Val	Glu	Lys	Pro	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met

GIU	450	Thr	GIÀ	vai	Arg	455	Asp	Val	MIA	ıyı	460	GIII	AIA	БСС	501
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Gly	Lys	Thr 510	Gln	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585		Asn	Ile	Pro	Val 590	Arg	Thr
Pro	Leu	Gly 595		Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp
Ala	Leu 610	Val	Ala	Leu	Asp	Tyr 615		Gln	Ile	Glu	Leu 620	Arg	Val	Leu	Ala
His 625	Leu	Ser	Gly	Asp	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Lys 640
Asp	Ile	His	Thr	Gln 645		Ala	Ser	Trp	Met 650		Gly	Val	Pro	Pro 655	Glu
Ala	Val	Asp	Pro 660		Met	Arg	Arg	Ala 665		Lys	Thr	Val	Asn 670	Phe	GlΣ
Val	Leu	Tyr 675		Met	Ser	Ala	His 680		Leu	Ser	Gln	Glu 685	Leu	Ala	Ile

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe

690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 780

Leu Gln Val Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835 840

<210> 2670

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2670

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

ьуs	GIÀ	35	Tnr	Tnr	Ser	Arg	40	GIu	Pro	Val	GIn	45	Val	Tyr	GIY
Phe	Ala 50	Lys	Ser	Leu	Leu	Lys 55	Ala	Leu	Lys	Glu	Asp 60	Gly	Tyr	Lys	Ala
Val 65	Phe	Val	Val	Phe	Asp 70	Ala	Lys	Ala	Pro	Ser 75	Phe	Arg	His	Glu	Ala 80
Tyr	Glu	Ala	Tyr	Lys 85	Ala	Gly	Arg	Ala	Pro 90	Thr	Pro	Glu	Asp	Phe 95	Pro
Arg	Gln	Leu	Ala 100	Leu	Ile	Lys	Glu	Leu 105	Val	Asp	Leu	Leu	Gly 110	Phe	Thr
Arg	Leu	Glu 115	Val	Pro	Gly	Tyr	Glu 120	Ala	Asp	Asp	Val	Leu 125	Ala	Thr	Leu
Ala	Lys 130	Lys	Ala	Glu	Lys	Glu 135	Gly	Tyr	Glu	Val	Arg 140	Ile	Leu	Thr	Ala
Asp 145	Arg	Asp	Leu	Tyr	Gln 150	Leu	Val	Ser	Asp	Arg 155	Val	Ala	Val	Leu	His 160
				165	Ile				170					175	
			180		Trp			185					190		
		195			Gly		200					205			
	210				Trp	215					220				
225					Glu 230					235					240
				245	Ser				250					255	
			260		Leu			265					270		
ьeu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu

- Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro 290 295 300
- Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro 305 310 315 320
- Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val 325 330 335
- His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
- Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly 355 360 365
- Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu 370 375 380
- Gly Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly 385 390 395 400
- Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu 405 410 415
- His Arg Asn Leu Leu Lys Arg Leu Glu Glu Glu Glu Lys Leu Trp 420 425 430
- Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met 435 440 445
- Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser 450 455 460
- Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg 465 470 475 480
- Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg 485 490 495
- Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys 500 505 510
- Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu 515 520 525
- Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys

Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
Pro	Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp
Ala	Leu 610	Val	Ala	Leu	Asp	Tyr 615	Ser	Gln	Ile	Glu	Leu 620	Arg	Val	Leu	Ala
His 625	Leu	Ser	Gly	Asp	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Lys 640
Asp	Ile	His	Thr	Gln 645	Thr	Ala	Ser	Trp	Met 650	Phe	Gly	Val	Pro	Pro 655	Glu
Ala	Val	Asp	Pro 660	Leu	Met	Arg	Arg	Ala 665	Ala	Lys	Thr	Val	Asn 670	Phe	Gly
Val	Leu	Tyr 675	Gly	Met	Ser	Ala	His 680	Arg	Leu	Ser	Gln	Glu 685	Leu	Ala	Ile
Pro	Tyr 690	Glu	Glu	Ala	Val	Ala 695	Phe	Ile	Glu	Arg	Tyr 700	Phe	Gln	Ser	Phe
Pro 705	Lys	Val	Arg	Ala	Trp 710	Ile	Glu	Lys	Thr	Leu 715	Glu	Glu	Gly	Arg	Lys 720
Arg	Gly	Tyr	Val	Glu 725		Leu	Phe	Gly	Arg 730		Arg	Tyr	Val	Pro 735	Asp
Leu	Asn	Ala	Arg 740		Lys	Ser	Val	Arg 745	Glu	Ala	Ala	Glu	Arg 750	Met	Ala
Phe	Asn	Met 755		Val	Gln	Gly	Thr 760		Ala	Asp	Leu	Met 765		Leu	Ala
Met	Val 770		Leu	Phe	Pro	Arg 775		Arg	Glu	Met	Gly 780		Arg	Met	Leu

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835

<210> 2671

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2671

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

АІА	130	пур	ALA	Giu	цуз	135	Gry	-y-	GIU	Val	140	110	Leu		
Asp 145	Arg	Asp	Leu	Tyr	Gln 150	Leu	Val	Ser	Asp	Arg 155	Val	Ala	Val	Leu	His 160
Pro	Glu	Gly	His	Leu 165	Ile	Thr	Pro	Glu	Trp 170	Leu	Trp	Glu	Lys	Tyr 175	Gly
Leu	Arg	Pro	Glu 180	Gln	Trp	Val	Asp	Phe 185	Arg	Ala	Leu	Val	Gly 190	Asp	Pro
Ser	Asp	Asn 195	Leu	Pro	Gly	Val	Lys 200	Gly	Ile	Arg	Glu	Lys 205	Thr	Ala	Leu
Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345		Lys	Asp	Leu	Lys 350	Glu	۷al
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	GlΣ
Leu	Asp	Leu	Val	Pro	Gly	Asp	Asp	Pro	Met	Leu	Leu	Ala	Tyr	Leu	Let

- Gly Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly 385 390 395 400
- Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu 405 410 415
- His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp 420 425 430
- Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
 435 440 445
- Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser 450 455 460
- Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg 465 470 475 480
- Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
 485 490 495
- Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys 500 505 510
- Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu 515 520 525
- Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys 530 535 540
- Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg 545 550 555 560
- Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly 565 570 575
- Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 580 585 590
- Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 595 600 605
- Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 630 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 680 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 815 Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 830 Ser Ala Lys Gly His His His His His 835 840 <210> 2672

<211>

<212> PRT

839

<220>

<223> Synthetic

<400> 2672

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185 190

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu 195 200 205

Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340		Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355		Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	_	· Asp	Asp	Pro	Met 375		Leu	Ala	Tyr	Leu 380		Gly	Pro	Ser
Asn 385		Thr	Pro	Glu	Gly 390		Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	. Ala	His 405	Arg	Ala	. Leu	. Leu	Ser 410		Arg	Leu	His	Arg 415	Asn
Leu	. Leu	. Lys	420		Glu	Gly	, Glu	Glu 425		. Leu	ı Lev	Trp	Leu 430	Tyr	His
Glu	ı Val	. Glu 435		Pro	Leu	ı Ser	Arg 440		. Leu	ı Ala	A His	Met 445	Glu	. Ala	Thr
Gly	val		J Leu	ı Asp	Val	. Ala	а Туг	Leu	Glr	n Ala	Leu 460	ı Ser	Leu	Glu	. Lev

Ala 465	Glu	Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	А1а	480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Ala	Leu	Lys 505	Lys	Thr	Lys	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	His	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Asn
Thr 545	Tyr	Val	Asp	Pro	Leu 550	Pro	Ser	Leu	Val	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Val 600	Ala	Glu	Ala	Gly	Trp 605	Ala	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	_	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Lys	Asp	Ile	His 640
Thr	Gln	Thr	Ala	Ser 645		Met	Phe	Gly	Val 650	Pro	Pro	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660		Ala	Ala	Lys	Thr 665	Val	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser 675		His	Arg	Leu	Ser 680		Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
Glu	Ala 690		Ala	Phe	Ile	Glu 695		Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Val
Arg	Ala	Trp	Ile	Glu	Lys	Thr	Leu	Glu	Glu	Gly	Arg	Lys	Arg	Gly	Tyr

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val 785 790 795 800

Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Gly His His His His His 835

<210> 2673

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2673

Met Asn Ser Thr Pro Leu Phe Asp Leu Glu Glu Pro Pro Lys Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Tyr Ala Leu 20 25 30

Ser Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Met Val Tyr Gly Phe 35 40 45

Ala	Arg 50	Ser	Leu	Leu	Lys	A1a 55	Leu	Lys	Glu	Asp	60 Gly	GIn	Ala	Val	Val
Val 65	Val	Phe	Asp	Ala	Lys 70	Ala	Pro	Ser	Phe	Arg 75	His	Glu	Ala	Tyr	Glu 80
Ala	Tyr	Lys	Ala	Gly 85	Arg	Ala	Pro	Thr	Pro 90	Glu	Asp	Phe	Pro	Arg 95	Gln
Leu	Ala	Leu	Val 100	Lys	Arg	Leu	Val	Asp 105	Leu	Leu	Gly	Leu	Val 110	Arg	Leu
Glu	Ala	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Gly	Thr 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Arg	Glu	Gly	Met 135	Glu	Val	Arg	Ile	Leu 140	Thr	Gly	Asp	Arg
Asp 145	Phe	Phe	Gln	Leu	Leu 150	Ser	Glu	Lys	Val	Ser 155	Val	Leu	Leu	Pro	Asp 160
Gly	Thr	Leu	Val	Thr 165	Pro	Lys	Asp	Val	Gln 170	Glu	Lys	Tyr	Gly	Val 175	Pro
Pro	Glu	Arg	Trp 180	Val	Asp	Phe	Arg	Ala 185	Leu	Thr	Gly	Asp	Arg 190	Ser	Asp
Asn	Ile	Pro 195	Gly	Val	Ala	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Leu	Arg	Leu
Leu	Ala 210	Glu	Trp	Gly	Ser	Val 215	Glu	Asn	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Val 225	Lys	Pro	Asp	Ser	Leu 230	Arg	Arg	Lys	Ile	Glu 235	Ala	His	Leu	Glu	Asp 240
Leu	His	Leu	Ser	Leu 245	Asp	Leu	Ala	Arg	Ile 250	Arg	Thr	Asp	Leu	Pro 255	Leu
Glu	Val	Asp	Phe 260	Lys	Ala	Leu	Arg	Arg 265	Arg	Thr	Pro	Asp	Leu 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Glu	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Gly	Gly	Glu 295	Lys	Pro	Arg	Glu	Glu 300	Ala	Pro	Trp	Pro

Pro 305	Pro	Glu	GIY	Ala	9he 310	Val	GIY	Pne	ьeu	1ец 315	ser	Arg	пуѕ		320
Met	Trp	Ala	Glu	Leu 325	Leu	Ala	Leu	Ala	Ala 330	Ala	Ser	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500		Leu	Arg	Leu	Pro 505		Leu	Lys	Lys	Thr 510	Lys	Lys
Thr	Gly	Lys 515		Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530		Ile	Val	Glu	Lys 535		Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu	Lys	Asn	Thr	Tyr	Val	Asp	Pro	Leu	Pro	Ser	Leu	Val	, His	Pro	Arg

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly 565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 630 635

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800 Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835

<210> 2674

<211> 838

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2674

Met Asn Ser Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val 1 5 10 15

Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly Leu 20 25 30

Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys 35

Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Val Val Ile Val Val 50 55 60

Phe Asp Ala Lys Ala Pro Ser Phe Arg His Gln Thr Tyr Glu Ala Tyr 65 70 75 80

Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala 85 90 95

Leu Ile Lys Glu Met Val Asp Leu Leu Gly Leu Glu Arg Leu Glu Val 100 105 110

Pro Gly Phe Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala 115 120 125

Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Arg Asp Leu 130 135 140

Tyr 145	Gln	Leu	Leu	Ser	Glu 150	Arg	Ile	Ser	Ile	Leu 155	His	Pro	Glu	Gly	Tyr 160
Leu	Ile	Thr	Pro	Glu 165	Trp	Leu	Trp	Glu	Lys 170	Tyr	Gly	Leu	Lys	Pro 175	Ser
Gln	Trp	Val	Asp 180	Tyr	Arg	Ala	Leu	Ala 185	Gly	Asp	Pro	Ser	Asp 190	Asn	Ile
Pro	Gly	Val 195	Lys	Gly	Ile	Gly	Glu 200	Lys	Thr	Ala	Ala	Lys 205	Leu	Ile	Arg
Glu	Trp 210	Gly	Ser	Leu	Glu	Asn 215	Leu	Leu	Lys	His	Leu 220	Glu	Gln	Val	Lys
Pro 225	Ala	Ser	Val	Arg	Glu 230	Lys	Ile	Leu	Ser	His 235	Met	Glu	Asp	Leu	Lys 240
Leu	Ser	Leu	Glu	Leu 245	Ser	Arg	Val	His	Thr 250	Asp	Leu	Leu	Leu	Gln 255	Val
Asp	Phe	Ala	Arg 260	Arg	Arg	Glu	Pro	Asp 265	Arg	Glu	Gly	Leu	Lys 270	Ala	Phe
Leu	Glu	Arg 275	Leu	Glu	Phe	Gly	Ser 280	Leu	Leu	His	Glu	Phe 285	Gly	Leu	Leu
Glu	Ser 290	Pro	Val	Ala	Ala	Glu 295	Glu	Ala	Pro	Trp	Pro 300	Pro	Pro	Glu	Gly
Ala 305	Phe	Val	Gly	Tyr	Val 310	Leu	Ser	Arg	Pro	Glu 315	Pro	Met	Trp	Ala	Glu 320
Leu	Asn	Ala	Leu	Ala 325	Ala	Ala	Trp	Gly	Gly 330	Arg	Val	His	Arg	Ala 335	Ala
Asp	Pro	Leu	Ala 340		Leu	Lys	Asp	Leu 345		Glu	Val	Arg	Gly 350	Leu	Leu
Ala	Lys	Asp 355		Ala	Val	Leu	Ala 360	Ser	Arg	Glu	Gly	Leu 365		Leu	Val
Pro	Gly 370		Asp	Pro	Met	Leu 375	Leu	Ala	Tyr	Leu	Leu 380		Pro	Ser	Asn
Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly	Glu	Trp	Thr	Glu

Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu 405 410 415

400

Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His Glu 420 425 430

Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr Gly
435 440 445

Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala 450 455 460

Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly His 465 470 475 480

Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp 485 490 495

Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys Arg
500 505 510

Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile 515 520 525

Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr 530 535 540

Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu 545 550 555 560

His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser 565 570 575

Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln 580 585 590

Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala 595 600 605

Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly 610 615 620

Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr 625 630 635 640

Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro 645 650 655

Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly 660 665 670

Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu 675 680 685

Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg 690 695 700

Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val 715 710 715 720

Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg 725 730 735

Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro
740 745 750

Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu 755 760 765

Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala 770 780

Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala 785 790 795 800

Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro 805 810 815

Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly 820 825 830

His His His His His 835

<210> 2675

<211> 2517

<212> DNA

<213> Artificial Sequence

<223> Synthetic

<400> 2675 atgaattegg ggatgetgee eetetttgag eecaagggee gggteeteet ggtggaegge 60 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 gacgeggtga tegtggtett tgacgecaag geceeteet teegecaega ggeetaeggg 240 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 aaggagetgg tggaceteet ggggetggeg egeetegagg teeegggeta egaggeggae 360 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 acegeegaca aagaeettta eeageteett teegacegea teeaegteet eeaceeegag 480 gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 660 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 780 aageteteet gggacetgge caaggtgege acegacetge ceetggaggt ggaettegee aaaaggeggg ageeegaeeg ggagaggett agggeettte tggagagget tgagtttgge 840 agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900 ecceggegg aaggggeett egtgggettt gtgettteee geaaggagee catgtgggee 960 gatettetgg ceetggeege egecagggge ggeegegtge acegggeage agacecettg 1020 geggggetaa aggaeeteaa ggaggteegg ggeeteeteg eeaaggaeet egeegtettg 1080 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140 ctgggcccct cgaacaccac ccccgagggg gtggcgcgc gctacggggg ggagtggacg 1200 gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260 ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320 gteetggeee atatggagge caeeggggta eggetggaeg tggeetaeet teaggeeett 1380 tecetggage ttgeggagga gateegeege etegaggagg aggtetteeg ettggeggge 1440 caccccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500 ettecegeet tggggaagae geaaaagaea ggeaageget ceaceagege egeggtgetg 1560 gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620 aageteaaga acacetaegt ggaceeeete eeaageeteg teeaceegag gaegggeege 1680 ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740

aacctgcaga acateceegt eegeaceeee ttgggeeaga ggateegeeg ggeettegtg 1800 gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860· gcccacctct ccggggacga aaacctgatc agggtcttcc aggaggggaa ggacatccac 1920 acccagaccg caagetggat gttcggcgtc cccccggagg ccgtggaccc cctgatgcgc 1980 cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgccca taggctctcc 2040 caggagettg ccateceeta egaggaggeg gtggeettta tagagegeta ettecaaage 2100 ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160 gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacgcccg ggtgaagagc 2220 gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280 ctcatgaagc tcgccatggt gaagctcttc ccccgcctcc gggagatggg ggcccgcatg 2340 ctcctccagg tccacaacga gctcctcctg gaggcccccc aagcgcgggc cgaggaqqtq 2400 gcggctttgg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggtg 2460 gaggtgggga tgggggagga ctggctttcc gccaagggtc accaccacca ccaccac 2517

<210> 2676

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2676

atgaattegg ggatgetgee cetetttgag eecaagggee gggteeteet ggtggaegge 60 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggag 120 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 aaggagetgg tggaceteet ggggetggeg egeetegagg teeegggeta egaggeggae 360 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 acegeegaca aagaeettta eeageteett teegaeegea teeaegteet eeaeeeegag 480 gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600

ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 aageteteet gggacetgge caaggtgege acegacetge eeetggaggt ggacttegee 780 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 agectectee acgagttegg cettetggaa ageceeaagg ceetggagga ggeeeeetgg 900 ccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960 gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agaccccttg 1020 geggggetaa aggaceteaa ggaggteegg ggeeteeteg ceaaggacet egeegtettg 1080 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140 ctgggcccct cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200 gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260 ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320 gtcctggccc atatggaggc caccggggta cggctggacg tggcctacct tcaggccctt 1380 tecetggage ttgcggagga gateegeege etegaggagg aggtetteeg ettggeggge 1440 caccccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500 cttcccgcct tggggaagac gcaaaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560 gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620 1680 aageteaaga acacetaegt ggaceceete ecaageeteg tecaecegag gaegggeege ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740 1800 aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcatc gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860 gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920 1980 acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040 caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100 ttccccaagg tgcgggctg gattgagaag accctggagg agggcaggag gcgggggtac 2160 gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220 gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280 ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340 ctccttcagg tccacaacga gctggtcctc gaggccccaa aagagagggc ggaggccgtg 2400 gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460

cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agaccccttg

gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg

gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc

ctgggcccct cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg

gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg

960

1020 1080

1140

1200 1260

1320

1380 gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg teeetggagg tggeegagga gategeeege etegaggeeg aggtetteeg eetggeegge 1440 1500 caccccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg cttcccgcca tcggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560 gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620 1680 aagetgaaga geacetacat tgacecettg eeggacetea tecaceceag gaegggeege ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740 aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcatc 1800 gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860 1920 geceaectet eeggegaega gaacetgate egggtettee aggaggggeg ggacateeae acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980 cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040 2100 caggagetag ccatecetta egaggaggee caggeettea ttgagegeta ettteagage 2160 ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220 gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280 ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340 ctccttcagg tccacaacga gctggtcctc gaggccccaa aagagagggc ggaggccgtg 2400 gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460 gaggtgggga taggggagga ctggctctcc gccaaggagc accaccacca ccaccac 2517

<210> 2678

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2678

atgaattegg ggatgetgee eetetttgag eecaagggee gggteeteet ggtggaegge 60 caccacetgg eetaeegea etteeaegee etgaagggee teaeeaega eeggggggag 120 eeggtgeagg eggtetaegg ettegeeaag ageeteetea aggeeeteaa ggaggaeggg 180

240 gacgeggtga tegtggtett tgacgecaag geceetteet teegecacga ggeetaeggg 300 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc aaggagetgg tggaeeteet ggggetggeg egeetegagg teeegggeta egaggeggae 360 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 480 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 540 gggtacetea teacecegge etggetttgg gaaaagtacg geetgaggee egaceagtgg gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 660 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 720 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 780 aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 840 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 900 agectectee aegagttegg cettetggaa ageceeaagg ceetggagga ggeeeeetgg 960 cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc gatettetgg ecetggeege egecagggge ggeegegtee aeegggeece egageettat 1020 aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080 1140 gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc ctggaccett cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200 1260 gaggaggegg gggageggc egecetttee gagaggetet tegecaacet gtgggggagg 1320 cttgagggg aggagaggt cctttggctt taccgggagg tggagaggcc cctttccgct gtcctggccc atatggaggc caccggggta cggctggacg tggcctacct tcaggccctt 1380 1440 tecetggage ttgeggagga gateegeege etegaggagg aggtetteeg ettggeggge 1500 caccccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg cttcccgcct tggggaagac gcaaaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560 gaggecetae gggaggecea ecceategtg gagaagatee tecageaceg ggageteace 1620 1680 aageteaaga acacetaegt ggaceceete ecaageeteg tecaceegag gaegggeege ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740 1800 aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcatc 1860 gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920 1980 acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040

2100 caggagetag ceatecetta egaggaggee caggeettea ttgagegeta ettteagage 2160 ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220 2280 gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2340 ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg ctccttcagg tccacaacga gctggtcctc gaggccccaa aagagagggc ggaggccgtg 2400 2460 gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg gaggtgggga taggggagga ctggctctcc gccaaggagc accaccacca ccaccac 2517

<210> 2679

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2679 atgaattegg ggatgetgee cetetttgag cecaagggee gggteeteet ggtggaegge 60 120 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 180 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240 300 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc aaggagetgg tggaceteet ggggetggeg egeetegagg teeegggeta egaggeggae 360 420 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 480 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 540 gggtacetea teacecegge etggetttgg gaaaagtaeg geetgaggee egaceagtgg 600 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 660 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 aageteteet gggacetgge caaggtgege acegacetge eeetggaggt ggacttegee 780 840 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc agectectee aegagttegg cettetggaa ageceeaagg ceetggagga ggeceeetgg 900

ccccgccgg	aaggggcctt	cgtgggcttt	gtgctttccc	gcaaggagcc	catgtgggcc	960
gatcttctgg	ccctggccgc	cgccaggggc	ggccgcgtcc	accgggcccc	cgagccttat	1020
aaagccctca	gggacctgaa	ggaggcgcgg	gggcttctcg	ccaaagacct	gagcgttctg	1080
gccctgaggg	aaggccttgg	cctcccgccc	ggcgacgacc	ccatgctcct	cgcctacctc	1140
ctggaccctt	cgaacaccac	ccccgagggg	gtggcgcggc	gctacggggg	ggagtggacg	1200
gaggacgccg	cccaccgggc	cctcctctcg	gagaggctcc	atcggaacct	ccttaagcgc	1260
ctcgaggggg	aggagaagct	cctttggctc	taccacgagg	tggaaaagcc	cctctcccgg	1320
gtcctggccc	atatggaggc	caccggggta	cggctggacg	tggcctacct	tcaggccctt	1380
tccctggagc	ttgcggagga	gatccgccgc	ctcgaggagg	aggtcttccg	cttggcgggc	1440
caccccttca	acctcaactc	ccgggaccag	ctggaaaggg	tgctctttga	cgagcttagg	1500
cttcccgcct	tggggaagac	gcaaaagaca	ggcaagcgct	ccaccagcgc	cgcggtgctg	1560
gaggccctac	gggaggccca	ccccatcgtg	gagaagatcc	tccagcaccg	ggagctcacc	1620
aagctcaaga	acacctacgt	ggaccccctc	ccaagcctcg	tccacccgag	gacgggccgc	1680
ctccacaccc	gcttcaacca	gacggccacg	gccacgggga	ggcttagtag	ctccgacccc	1740
aacctgcaga	acateceegt	ccgcaccccc	ttgggccaga	ggatccgccg	ggccttcatc	1800
gccgaggagg	ggtggctatt	ggtggccctg	gactatagcc	agatagagct	cagggtgctg	1860
gcccacctct	ccggcgacga	gaacctgatc	cgggtcttcc	aggaggggcg	ggacatccac	1920
acggagaccg	ccagctggat	gttcggcgtc	ccccgggagg	ccgtggaccc	cctgatgcgc	1980
cgggcggcca	agaccatcaa	cttcggggtc	ctctacggca	tgtcggccca	ccgcctctcc	2040
caggagctag	ccatccctta	cgaggaggcc	caggccttca	ttgagcgcta	ctttcagagc	2100
ttccccaagg	tgcgggcctg	gattgagaag	accctggagg	agggcaggag	gcgggggtac	2160
gtggagaccc	tcttcggccg	ccgccgctac	gtgccagacc	tagaggcccg	ggtgaagagc	2220
gtgcgggagg	cggccgagcg	catggccttc	aacatgcccg	tccagggcac	cgccgccgac	2280
ctcatgaagc	tggctatggt	gaagctcttc	cccaggctgg	aggaaatggg	ggccaggatg	2340
ctccttcagg	tccacaacga	gctggtcctc	gaggccccaa	aagagaggc	ggaggccgtg	2400
gcccggctgg	ccaaggaggt	catggagggg	gtgtatcccc	tggccgtgcc	cctggaggtg	2460
gaggtgggga	taggggagga	ctggctctcc	gccaaggagc	accaccacca	ccaccac	2517

<210> 2680

<211> 2517

<212> DNA

<213> Artificial Sequence

<223> Synthetic

<400> 2680 60 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240 300 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc aaggagetgg tggaeeteet ggggetggeg egeetegagg teeegggeta egaggeggae 360 420 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 480 accgeegaca aagaeettta eeageteett teegaeegea teeaegteet eeacceegag gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540 600 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 aageteteet gggaeetgge caaggtgege aeegaeetge eeetggaggt ggaettegee 780 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 agcetectee acgagttegg cettetggaa agceceaagg ceetggagga ggccceetgg 900 960 cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agaccccttg 1020 gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140 1200 ctgggcccct cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1260 gaggaggegg gggageggge egecetttee gagaggetet tegecaacet gtgggggagg 1320 cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380 1440 tccctggagg tggccgagga gatcgcccgc ctcgaggccg aggtcttccg cctggccggc 1500 caccccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg cttcccgcca tcggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560 gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620 1680 aagctgaaga gcacctacat tgaccccttg ccggacctca tccaccccag gacgggccgc

ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740 1800 aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcatc gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860 1920 gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1980 acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040 2100 caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160 gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220 2280 qtqcqqqaqq cqqccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2340 ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg ctccttcagg tccacaacga gctggtcctc gaggccccaa aagagagggc ggaggccgtg 2400 gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460 2517 gaggtgggga taggggagga ctggctctcc gccaaggagc accaccacca ccaccac

<210> 2681

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

2681 <400> atgaatteeg aggegatget teegetettt gaacceaaag geegggteet eetggtggae 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 180 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 240 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 300 tacgaggeet acaaggeggg gagggeeeeg acceeegagg actteeeeeg geagetegee ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 420 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 480 atcctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 540 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag

600 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 660 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 720 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 780 gaagacetea ggeteteett ggagetetee egggtgegea eegaceteee eetggaggtg gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 900 gagtteggea geeteeteea egagttegge eteetggagg eeceegeece eetggaggag 960 gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020 1080 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 gcctacctcc tgggcccctc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg 1200 1260 gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1320 cttaagcgcc tcgagggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1380 ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt 1440 caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1500 ttggcgggcc acccettcaa cetcaactee egggaccage tggaaagggt getetttgae gagettagge ttecegeett ggggaagaeg caaaagaeag geaagegete caecagegee 1560 1620 geggtgetgg aggeeetacg ggaggeeeac cecategtgg agaagateet ceageacegg 1680 gageteacea ageteaagaa cacetaegtg gaceceetee caageetegt ecaceegagg acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740 tecgaeecca acetgeagaa cateceegte egeaeeceet tgggeeagag gateegeegg 1800 1860 gccttcatcg ccgaggaggg gtggctattg gtggccctgg actatagcca gatagagctc 1920 agggtgctgg cccacctctc cggcgacgag aacctgatcc gggtcttcca ggaggggcgg 1980 gacatccaca cggagaccgc cagctggatg ttcggcgtcc cccgggaggc cgtggacccc 2040 ctgatgcgcc gggcggccaa gaccatcaac ttcggggtcc tctacggcat gtcggcccac cgcctctccc aggagctagc catcccttac gaggaggccc aggccttcat tgagcgctac 2100 tttcagagct tccccaaggt gcgggcctgg attgagaaga ccctggagga gggcaggagg 2160 cgggggtacg tggagaccct cttcggccgc cgccgctacg tgccagacct agaggcccgg 2220 gtgaagagcg tgcgggaggc ggccgagcgc atggccttca acatgcccgt ccagggcacc 2280 2340 gccgccgacc tcatgaagct ggctatggtg aagctcttcc ccaggctgga ggaaatgggg gccaggatgc tccttcaggt ccacaacgag ctggtcctcg aggccccaaa agagagggcg 2400 gaggccgtgg cccggctggc caaggaggtc atggagggg tgtatccct ggccgtgcc 2460 ctggaggtgg aggtggggat aggggaggac tggctctccg ccaaggagca ccaccaccac 2520 caccac 2520

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2682
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggag
ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg
gacgcggtga tcgtggtctt tgacgccaag gcccctcct tccgccacga ggcctacggg

60

120

180

240

gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 aaggagetgg tggaceteet ggggetggeg egeetegagg teeegggeta egaggeggae 360 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480 gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 aageteteet gggacetgge caaggtgege acegacetge eeetggaggt ggaettegee 780 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 agceteetee aegagttegg cettetggaa ageeecaagg ceetggagga ggeeeeetgg 900

cccccgccgg aagggcctt cgtggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agaccccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctgggcccct cgaacaccac ccccgagggg gtggcggcc gctacgggg ggagtggacg 1200

gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260 ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320 gtcctggccc atatggaggc caccggggta cggctggacg tggcctacct tcaggccctt 1380 tecetggage ttgeggagga gateegeege etegaggagg aggtetteeg ettggeggge 1440 1500 caccccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg cttcccgcct tggggaagac gcaaaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560 gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620 aageteaaga acacetaegt ggaceeette ecaageeteg tecaeeegag gaegggeege 1680 ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740 aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcgtg 1800 gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860 gcccacctct ccggggacga aaacctgatc agggtcttcc aggaggggaa ggacatccac 1920 acccagaccg caagetggat gttcggcgtc cccccggagg ccgtggaccc cctgatgcgc 1980 egggeggeea agaeggtgaa etteggegte etetaeggea tgteegeeca taggetetee 2040 caggagettg ccateceeta egaggaggeg gtggeettta tagagegeta ettecaaage 2100 ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160 gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacgcccg ggtgaagagc 2220 gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280 ctcatgaagc tcgccatggt gaagctcttc ccccgcctcc gggagatggg ggcccgcatg 2340 etectecagg tecaegaega getecteetg gaggeeece aagegeggge egaggaggtg 2400 geggetttgg ccaaggagge catggagaag gectateeec tegeegtgee cetggaggtg 2460 gaggtgggga tggggggggg ctggctttcc gccaagggt 2499

<210> 2683

<211> 2499

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2683

atgaattegg ggatgetgee cetetttgag ceeaagggee gggteeteet ggtggaegge

60

120 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 180 ccqqtqcaqq cqqtctacqq cttcqccaaq agcctcctca aggccctcaa ggaggacggg gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240 300 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 360 aaggagetgg tggaceteet ggggetggeg egeetegagg teeegggeta egaggeggae gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 480 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 660 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag aacctqqacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 aageteteet gggaeetgge caaggtgege acegaeetge eeetggaggt ggaettegee 780 840 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 900 agectectee aegagttegg cettetggaa ageceeaagg ceetggagga ggeeeeetgg cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960 1020 gatettetgg ceetggeege egecagggge ggeegegtge acegggeage agacecettg 1080 gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140 etgggeeeet egaacaceae eeeegagggg gtggegegge getaeggggg ggagtggaeg 1200 1260 gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320 gtcctggccc atatggaggc caccggggta cggctggacg tggcctacct tcaggccctt 1380 1440 tccctggagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1500 caccccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1560 ettecegeet tggggaagae geaaaagaea ggeaageget ceaceagege egeggtgetg 1620 gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1680 aageteaaga acacetaegt ggaceceete ecaageeteg tecaecegag gaegggeege ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740 aacctgcaga acateccegt cegeaceeee ttgggccaga ggateegeeg ggeetteate 1800 gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860

1920

gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac

1980 acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 2040 cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc caggagetag ceatecetta egaggaggee caggeettea ttgagegeta ettteagage 2100 2160 ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2220 gtggagaccc tetteggeeg cegeegetac gtgecagacc tagaggeeeg ggtgaagage gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280 ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340 etectteagg tecaegaega getggteete gaggeeceaa aagagagge ggaggeegtg 2400 gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460 gaggtgggga taggggagga ctggctctcc gccaaggag 2499

<210> 2684

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2684

60 atgaattegg ggatgetgee cetetttgag cecaagggee gggteeteet ggtggaegge 120 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggag ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240 300 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 360 aaggagetgg tggaceteet ggggetggeg egeetegagg teeegggeta egaggeggae gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480 540 gggtacetea teacecegge etggetttgg gaaaagtaeg geetgaggee egaceagtgg gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 720 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg aageteteet gggaeetgge caaggtgege accgaeetge eeetggaggt ggaettegee 780

aaaaggcggg	agcccgaccg	ggagaggctt	agggcctttc	tggagaggct	tgagtttggc	840
agcctcctcc	acgagttcgg	ccttctggaa	agccccaagg	ccctggagga	ggccccctgg	900
ccccgccgg	aaggggcctt	cgtgggcttt	gtgctttccc	gcaaggagcc	catgtgggcc	960
gatcttctgg	ccctggccgc	cgccaggggc	ggccgcgtcc	accgggcccc	cgagccttat	1020
aaagccctca	gggacctgaa	ggaggcgcgg	gggcttctcg	ccaaagacct	gagcgttctg	1080
gccctgaggg	aaggccttgg	cctcccgccc	ggcgacgacc	ccatgctcct	cgcctacctc	1140
ctggaccctt	cgaacaccac	ccccgagggg	gtggcccggc	gctacggcgg	ggagtggacg	1200
gaggaggcgg	ggcaccgggc	cgccctttcc	gagaggctct	tcgccaacct	gtgggggagg	1260
cttgaggggg	aggagaggct	cctttggctt	taccgggagg	tggagaggcc	cctttccgct	1320
gtcctggccc	atatggaggc	caccggggta	cggctggacg	tggcctacct	tcaggccctt	1380
tccctggagc	ttgcggagga	gatccgccgc	ctcgaggagg	aggtcttccg	cttggcgggc	1440
caccccttca	acctcaactc	ccgggaccag	ctggaaaggg	tgctctttga	cgagcttagg	1500
cttcccgcct	tggggaagac	gcaaaagaca	ggcaagcgct	ccaccagcgc	cgcggtgctg	1560
gaggccctac	gggaggccca	ccccatcgtg	gagaagatcc	tccagcaccg	ggagctcacc	1620
aagctcaaga	acacctacgt	ggaccccctc	ccaagcctcg	tccacccgag	gacgggccgc	1680
ctccacaccc	gcttcaacca	gacggccacg	gccacgggga	ggcttagtag	ctccgacccc	1740
aacctgcaga	acatccccgt	ccgcaccccc	ttgggccaga	ggatccgccg	ggccttcatc	1800
gccgaggagg	ggtggctatt	ggtggccctg	gactatagcc	agatagagct	cagggtgctg	1860
gcccacctct	ccggcgacga	gaacctgatc	cgggtcttcc	aggaggggg	ggacatccac	1920
acggagaccg	ccagctggat	gttcggcgtc	ccccgggagg	ccgtggaccc	cctgatgcgc	1980
cgggcggcca	agaccatcaa	cttcggggtc	ctctacggca	tgtcggccca	ccgcctctcc	2040
caggagctag	ccatccctta	cgaggaggcc	caggccttca	ttgagcgcta	ctttcagagc	2100
ttccccaagg	tgcgggcctg	gattgagaag	accctggagg	agggcaggag	gcgggggtac	2160
gtggagaccc	tcttcggccg	ccgccgctac	gtgccagacc	tagaggcccg	ggtgaagagc	2220
gtgcgggagg	cggccgagcg	catggccttc	aacatgcccg	tccagggcac	cgccgccgac	2280
ctcatgaagc	tggctatggt	gaagctcttc	cccaggctgg	aggaaatggg	ggccaggatg	2340
ctccttcagg	tccacaacga	gctggtcctc	gaggccccaa	aagagagggc	ggaggccgtg	2400
gcccggctgg	ccaaggaggt	catggagggg	gtgtatcccc	tggccgtgcc	cctggaggtg	2460
gaggtgggga	taggggagga	ctggctctcc	gccaaggagc	accaccacca	ccaccac	2517

<210> 2685

<211> 2517

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2685 60 atgaattegg ggatgetgee cetetttgag eccaagggee gggteeteet ggtggaegge caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 240 gacgcggtga tcgtggtctt tgacgccaag gcccctcct tccgccacga ggcctacggg gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 aaggagetgg tggaceteet ggggetggeg egeetegagg teeegggeta egaggeggae 360 420 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 480 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 540 gggtacetea teaceeegge etggetttgg gaaaagtacg geetgaggee egaceagtgg 600 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 aageteteet gggacetgge caaggtgege acegacetge ceetggaggt ggacttegee 780 840 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 900 agceteetee aegagttegg cettetggaa agceceaagg ceetggagga ggeeceetgg cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960 1020 gatettetgg ceetggeege egecaggge ggeegegtee acegggeece egageettat 1080 aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1140 gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200 gaggaggegg gggagegggc egecetttee gagaggetee ateggaacet gtgggggagg 1260 cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320 gtcctggccc atatggaggc caccggggta cggctggacg tggcctacct tcaggccctt 1380 tccctggagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440 1500 cacccettca aceteaacte cegggaecag etggaaaggg tgetetttga egagettagg cttcccgcct tggggaagac gcaaaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560

gaggecetae gggaggecea ecceategtg gagaagatee tecageaceg ggageteace 1620 aagctcaaga acacctacgt ggaccccctc ccaagcctcg tccacccgag gacgggccgc 1680 etccacacce getteaacca gaeggeeacg gecaegggga ggettagtag etcegaecce 1740 aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcatc 1800 gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860 gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920 acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctqatqcqc 1980 egggeggeea agaceateaa etteggggte etetaeggea tgteggeeea eegeetetee 2040 caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100 ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160 gtggagaccc tetteggeeg cegeegetae gtgeeagace tagaggeeeg ggtgaagage 2220 gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280 ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340 ctccttcagg tccacaacga gctggtcctc gaggccccaa aagagaggcc ggaggccgtg 2400 gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460 gaggtgggga taggggagga ctggctctcc gccaaggagc accaccacca ccaccac 2517

<210> 2686

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2686

atgaattegg ggatgetgee cetetttgag eccaagggee gggteeteet ggtggaegge 60
caccacetgg ectaeegeae ettecaegee etgaagggee teaecaeag eeggggggag 120
ceggtgeagg eggtetaegg ettegeeaag ageeteetea aggeeeteaa ggaggaeggg 180
gaegeeggtga tegtggtett tgaegeeaag geeeeeteet teegeeaega ggeetaeggg 240
gggtaeaagg egggeeggge ecceaegeeg gaggaettte eeeggeaaet egeeeteate 300
aaggagetgg tggaeeteet ggggetggeg egeetegagg teeegggeta egaggeggae 360
gaegteetgg eeageetgge eaagaaggeg gaaaaggagg getaegaggt eegeateete 420

accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 540 gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg aageteteet gggaeetgge caaggtgege acegaeetge eeetggaggt ggaettegee aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc agectectee aegagttegg cettetggaa ageceeaagg ceetggagga ggeeeeetgg ccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 1020 gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080 1140 gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1200 ctggaccett cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg gaggaggegg gggageggge egecetttee gagaggetet tegecaacet gettaagagg 1260 cttgagggg aggagaggt cctttggctt taccgggagg tggagaggcc cctttccgct 1320 1380 gtcctggccc atatggaggc caccggggta cggctggacg tggcctacct tcaggccctt 1440 tccctggagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1500 caccccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1560 cttcccgcct tggggaagac gcaaaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1620 gaggeeetae gggaggeeca eeceategtg gagaagatee teeageaceg ggageteace 1680 aageteaaga acacetaegt ggaceceete ecaageeteg tecaecegag gaegggeege ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740 1800 aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcatc 1860 gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920 acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980 2040 cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100 ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160 gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220 2280 gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac

480

660

720

780

840

900

960

ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340 ctccttcagg tccacaacga gctggtcctc gaggccccaa aagagaggc ggaggccgtg 2400 gcccggctgg ccaaggaggt catggaggg gtgtatcccc tggccgtgcc cctggaggtg 2460 gaggtgggga taggggagga ctggctctcc gccaaggagc accaccacca ccaccac 2517

<210> 2687

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2687 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggag 120 ceggtgeagg eggtetaegg ettegeeaag ageeteetea aggeeeteaa ggaggaeggg 180 gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacgqq 240 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 aaggagetgg tggaceteet ggggetggeg egeetegagg teeegggeta egaggeggae 360 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480 gggtacetea teacecegge etggetttgg gaaaagtaeg geetgaggee egaceagtgg 540 gccgactace gggccctgac cggggacgag tccgacaacc ttcccggggt caaqqqcatc 600 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 ageeteetee aegagttegg cettetggaa ageeceaagg ceetggagga ggeeceetgg 900 ecceggeegg aaggggeett egtgggettt gtgettteee geaaggagee catgtgggee 960 gatettetgg ceetggeege egecagggge ggeegegtee acegggeece egageettat 1020 aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080 gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140

```
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg
                                                                     1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gtgggggagg
                                                                     1260
cttgagggg aggaggct cctttggctt taccgggagg tggagaggcc cctttcccgg
                                                                     1320
gtcctggccc atatggaggc caccggggta cggctggacg tggcctacct tcaggccctt
                                                                     1380
tccctggagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc
                                                                     1440
cacccettca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg
                                                                     1500
cttcccgcct tggggaagac gcaaaagaca ggcaagcgct ccaccagcgc cgcggtgctg
                                                                     1560
gaggeeetae gggaggeeea eeceategtg gagaagatee teeageaceg ggageteace
                                                                    1620
aageteaaga acacetaegt ggaceeeete ecaageeteg tecaeeegag gacgggeege
                                                                    1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc
                                                                     1740
aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcatc
                                                                    1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg
                                                                    1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac
                                                                    1920
acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc
                                                                    1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc
                                                                    2040
caggagetag ceatecetta egaggaggee caggeettea ttgagegeta ettteagage
                                                                    2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac
                                                                    2160
gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc
                                                                    2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccqac
                                                                    2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg
                                                                    2340
ctccttcagg tccacaacga gctggtcctc gaggccccaa aagagagggc ggaggccgtg
                                                                    2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg
                                                                    2460
gaggtgggga taggggagga ctggctctcc gccaaggagc accaccacca ccaccac
                                                                    2517
```

<210> 2688

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2688

atgaattegg ggatgetgee cetetttgag cecaagggee gggteeteet ggtggaegge 120 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240 300 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc aaggagetgg tggaceteet ggggetggeg egeetegagg teeegggeta egaggeggae 360 420 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 480 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 540 gggtacetea teacecegge etggetttgg gaaaagtaeg geetgaggee egaceagtgg 600 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 660 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 720 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 780 aageteteet gggaeetgge caaggtgege acegaeetge eeetggaggt ggaettegee aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 900 agectectee aegagttegg cettetggaa ageceeaagg ceetggagga ggeeeeetgg 960 cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc gatettetgg ceetggeege egecagggge ggeegegtge acegggeage agacecettg 1020 1080 geggggetaa aggaceteaa ggaggteegg ggeeteeteg ecaaggacet egeegtettg 1140 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1200 ctgggcccct cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1260 gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320 1380 gtectggccc atatggaggc cacggggtg cgccgggacg tggcctatct cagggccttg 1440 teeetggagg tggeegagga gategeeege etegaggeeg aggtetteeg eetggeegge 1500 cacccettca acetcaacte cegggaccag etggaaaggg teetetttga egagetaggg 1560 cttcccgcca tcggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1620 gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1680 aagetgaaga geacetaeat tgacecettg eeggacetea teeaceceag gaegggeege ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740 1800 aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcatc gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860

60

1920 geceacetet eeggegaega gaacetgate egggtettee aggaggggeg ggacateeac 1980 acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc egggeggeca agaccateaa etteggggte etetaeggea tgteggeeca eegeetetee 2040 2100 caggagetag ccatecetta egaggaggee caggeettea ttgagegeta ettteagage 2160 ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220 2280 gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2340 ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg ctccttcagg tccacaacga gctggtcctc gaggccccaa aagagagggc ggaggccgtg 2400 2460 gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg gaggtgggga taggggagga ctggctctcc gccaaggagc accaccacca ccaccac 2517

<210> 2689

2517 <211>

<212> DNA

<213> Artificial Sequence

<220>

<400>

<223> Synthetic

2689

atgaattegg ggatgetgee cetetttgag cecaagggee gggteeteet ggtggaegge caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg gaegeggtga tegtggtett tgaegeeaag geeeeteet teegeeaega ggeetaeggg

120 180 240 300 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 360 aaggagetgg tggaceteet ggggetggeg egeetegagg teeegggeta egaggeggae 420 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480 540 gggtacctca tcacccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 600 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc

60

660

720

ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag

aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg

aagctctcct	gggacctggc	caaggtgcgc	accgacctgc	ccctggaggt	ggacttcgcc	780
aaaaggcggg	agcccgaccg	ggagaggctt	agggcctttc	tggagaggct	tgagtttggc	840
agcctcctcc	acgagttcgg	ccttctggaa	agccccaagg	ccctggagga	ggccccctgg	900
ccccgccgg	aaggggcctt	cgtgggcttt	gtgctttccc	gcaaggagcc	catgtgggcc	960
gatcttctgg	ccctggccgc	cgccaggggc	ggccgcgtgc	accgggcagc	agaccccttg	1020
gcggggctaa	aggacctcaa	ggaggtccgg	ggcctcctcg	ccaaggacct	cgccgtcttg	1080
gcctcgaggg	aggggctaga	cctcgtgccc	ggggacgacc	ccatgctcct	cgcctacctc	1140
ctgggcccct	cgaacaccac	ccccgagggg	gtggcgcggc	gctacggggg	ggagtggacg	1200
gaggacgccg	cccaccgggc	cctcctctcg	gagaggctcc	atcggaacct	ccttaagcgc	1260
ctcgaggggg	aggagaagct	cctttggctc	taccacgagg	tggaaaagcc	cctctcccgg	1320
gtcctggccc	atatggaggc	cacgggggtg	cgcctggacg	tggcctatct	ccaggccttg	1380
tccctggagg	tggccgagga	gatcgcccgc	ctcgaggccg	aggtcttccg	cctggccggc	1440
caccccttca	acctcaactc	ccgggaccag	ctggaaaggg	tcctctttga	cgagctaggg	1500
cttcccgcca	tcggcaagac	ggagaagacc	ggcaagcgct	ccaccagcgc	cgccgtcctg	1560
gaggccctcc	gcgaggccca	ccccatcgtg	gagaagatcc	tgcagtaccg	ggagctcacc	1620
aagctgaaga	gcacctacat	tgaccccttg	ccggacctca	tccaccccag	gacgggccgc	1680
ctccacaccc	gcttcaacca	gacggccacg	gccacgggca	ggctaagtag	ctccgatccc	1740
aacctccaga	acatccccgt	ccgcaccccg	cttgggcaga	ggatccgccg	ggccttcatc	1800
gccgaggagg	ggtggctatt	ggtggccctg	gactatagcc	agatagagct	cagggtgctg	1860
gcccacctct	ccggcgacga	gaacctgatc	cgggtcttcc	aggaggggg	ggacatccac	1920
acggagaccg	ccagctggat	gttcggcgtc	ccccgggagg	ccgtggaccc	cctgatgcgc	1980
cgggcggcca	agaccatcaa	cttcggggtc	ctctacggca	tgtcggccca	ccgcctctcc	2040
caggagctag	ccatccctta	cgaggaggcc	caggccttca	ttgagcgcta	ctttcagagc	2100
ttccccaagg	tgcgggcctg	gattgagaag	accctggagg	agggcaggag	gcgggggtac	2160
gtggagaccc	tcttcggccg	ccgccgctac	gtgccagacc	tagaggcccg	ggtgaagagc	2220
gtgcgggagg	cggccgagcg	catggccttc	aacatgcccg	tccagggcac	cgccgccgac	2280
ctcatgaagc	tggctatggt	gaagctcttc	cccaggctgg	aggaaatggg	ggccaggatg	2340
ctccttcagg	tccacaacga	gctggtcctc	gaggccccaa	aagagaggc	ggaggccgtg	2400
gcccggctgg	ccaaggaggt	catggagggg	gtgtatcccc	tggccgtgcc	cctggaggtg	2460
gaggtgggga	taggggagga	ctggctctcc	gccaaggagc	accaccacca	ccaccac	2517

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2690 60 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 360 aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480 540 gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 660 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 780 aageteteet gggaeetgge caaggtgege aeegaeetge eeetggaggt ggaettegee aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900 ccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960 gatettetgg ceetggeege egecagggge ggeegegtge acegggeage agacecettg 1020 gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140 ctgggcccct cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200 1260 gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320 1380 gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg tccctggagc ttgccgagga gatcgcccgc ctcgaggccg aggtcttccg cctggccggc 1440 caccccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500 cttcccgcca tcggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560 1620 gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc aagetgaaga geacetacat tgacecettg eeggacetea tecaceceag gaegggeege 1680 ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740 aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcatc 1800 1860 gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1920 gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980 2040 cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2100 caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160 gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220 2280 gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340 ctccttcagg tccacaacga gctggtcctc gaggccccaa aagagagggc ggaggccgtg 2400 gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460 2517 gaggtgggga taggggagga ctggctctcc gccaaggagc accaccacca ccaccac

2691 <210>

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2691

60 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240 300 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360

gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 480 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 660 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 aageteteet gggaeetgge caaggtgege acegaeetge eeetggaggt ggaettegee 780 840 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc agectectee acgagttegg cettetggaa ageceeaagg ceetggagga ggeeeeetgg 900 cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960 1020 gatettetgg ceetggeege egecagggge ggeegegtge acegggeage agacecettg gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140 1200 ctgggcccct cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260 1320 ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380 tccctggagg tggccgagga gatccgccgc ctcgaggccg aggtcttccg cctggccggc 1440 cacceettea aceteaacte eegggaceag etggaaaggg teetetttga egagetaggg 1500 cttcccgcca tcggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560 gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620 1680 aagetgaaga geacetacat tgacecettg ceggacetea tecaceceag gaegggeege ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740 aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcatc 1800 1860 gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920 1980 acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 2040 cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100 2160 ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220 gtgcggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280 ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340 ctccttcagg tccacaacga gctggtcctc gaggccccaa aagaagaggc ggaggccgtg 2400 gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460 gaggtgggga tagggggag ctggctctcc gccaaggagc accaccacca ccaccac 2517

<210> 2692

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2692 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60 120 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 180 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240 300 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 360 aaggagetgg tggaceteet ggggetggeg egeetegagg teeegggeta egaggeggae gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 480 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 540 gggtacetea teacecegge etggetttgg gaaaagtaeg geetgaggee egaceagtgg gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 660 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 720 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 780 aageteteet gggaeetgge caaggtgege accgaeetge eeetggaggt ggaettegee aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 900 agectectee acgagttegg cettetggaa ageceeaagg ceetggagga ggeeeettgg ccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960 1020 gatettetgg ceetggeege egecagggge ggeegegtge acegggeage agacecettg geggggetaa aggaceteaa ggaggteegg ggeeteeteg eeaaggacet egeegtettg 1080 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140 1200 ctgggcccct cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260 ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320 1380 gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg tccctggagg tggccgagga gatcgcccgc ctcgaggagg aggtcttccg cctggccggc 1440 caccccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500 1560 cttcccgcca tcggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg gaggecetee gegaggeeea ecceategtg gagaagatee tgeagtaceg ggageteace 1620 1680 aagctgaaga gcacctacat tgaccccttg ccggacctca tccaccccag gacgggccgc 1740 ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1800 aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcatc 1860 gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1920 gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980 2040 cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100 2160 ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220 gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280 2340 ctcatqaaqc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg ctccttcagg tccacaacga gctggtcctc gaggccccaa aagagagggc ggaggccgtg 2400 gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460 2517 gaggtgggga taggggagga ctggctctcc gccaaggagc accaccacca ccaccac

<210> 2693

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2693 60 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 240 gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360 420 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 480 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 540 gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 aageteteet gggaeetgge caaggtgege aeegaeetge eeetggaggt ggaettegee 780 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 900 agcetectee acgagttegg cettetggaa agceceaagg ceetggagga ggccceetgg ccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960 gatettetgg ceetggeege egecagggge ggeegegtge acegggeage agacecettg 1020 gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140 ctgggcccct cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200 1260 gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1320 ctcgagggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380 1440 tccctggagg tggccgagga gatcgcccgc ctcgaggccg aggtcttccg cctggccggc caccccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaagg 1500 1560 cttcccgcca tcggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg gaggecetee gegaggeeea ecceategtg gagaagatee tgeagtaceg ggageteace 1620 aagetgaaga geacetacat tgacecettg eeggacetea tecaceceag gaegggeege 1680 ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740 aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcatc 1800 1860 gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg

1920 gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980 cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040 caggagetag ceatecetta egaggaggee caggeettea ttgagegeta ettteagage 2100 2160 ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220 2280 gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2340 ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg ctccttcagg tccacaacga gctggtcctc gaggccccaa aagagagggc ggaggccgtg 2400 gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460 2517 gaggtgggga taggggagga ctggctctcc gccaaggagc accaccacca ccaccac

<210> 2694

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2694 60 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120 180 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240 300 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 360 aaggagetgg tggaceteet ggggetggeg egeetegagg teeegggeta egaggeggae gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 480 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540 600 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720

aagctctcct	gggacctggc	caaggtgcgc	accgacctgc	ccctggaggt	ggacttcgcc	780
aaaaggcggg	agcccgaccg	ggagaggctt	agggcctttc	tggagaggct	tgagtttggc	840
agcctcctcc	acgagttcgg	ccttctggaa	agccccaagg	ccctggagga	ggccccctgg	900
ccccgccgg	aaggggcctt	cgtgggcttt	gtgctttccc	gcaaggagcc	catgtgggcc	960
gatcttctgg	ccctggccgc	cgccaggggc	ggccgcgtgc	accgggcagc	agaccccttg	1020
gcggggctaa	aggacctcaa	ggaggtccgg	ggcctcctcg	ccaaggacct	cgccgtcttg	1080
gcctcgaggg	aggggctaga	cctcgtgccc	ggggacgacc	ccatgctcct	cgcctacctc	1140
ctgggcccct	cgaacaccac	ccccgagggg	gtggcgcggc	gctacggggg	ggagtggacg	1200
gaggacgccg	cccaccgggc	cctcctctcg	gagaggctcc	atcggaacct	ccttaagcgc	1260
ctcgaggggg	aggagaagct	cctttggctc	taccacgagg	tggaaaagcc	cctctcccgg	1320
gtcctggccc	atatggaggc	cacgggggtg	cgcctggacg	tggcctatct	cagggccttg	1380
tccctggagg	tggccgagga	gatcgcccgc	ctcgaggccg	aggtcttccg	cctggccggc	1440
caccccttca	acctcaactc	ccgggaccag	ctggaaaggg	tcctctttga	cgagctaggg	1500
cttcccgcca	tcggcaagac	gcaaaagacc	ggcaagcgct	ccaccagcgc	cgccgtcctg	1560
gaggccctcc	gcgaggccca	ccccatcgtg	gagaagatcc	tgcagtaccg	ggagctcacc	1620
aagctgaaga	gcacctacat	tgaccccttg	ccggacctca	tccaccccag	gacgggccgc	1680
ctccacaccc	gcttcaacca	gacggccacg	gccacgggca	ggctaagtag	ctccgatccc	1740
aacctccaga	acatccccgt	ccgcaccccg	cttgggcaga	ggatccgccg	ggccttcatc	1800
gccgaggagg	ggtggctatt	ggtggccctg	gactatagcc	agatagagct	cagggtgctg	1860
gcccacctct	ccggcgacga	gaacctgatc	cgggtcttcc	aggaggggg	ggacatccac	1920
acggagaccg	ccagctggat	gttcggcgtc	ccccgggagg	ccgtggaccc	cctgatgcgc	1980
cgggcggcca	agaccatcaa	cttcggggtc	ctctacggca	tgtcggccca	ccgcctctcc	2040
caggagctag	ccatccctta	cgaggaggcc	caggccttca	ttgagcgcta	ctttcagagc	2100
ttccccaagg	tgcgggcctg	gattgagaag	accctggagg	agggcaggag	gcgggggtac	2160
gtggagaccc	tcttcggccg	ccgccgctac	gtgccagacc	tagaggcccg	ggtgaagagc	2220
gtgcgggagg	cggccgagcg	catggccttc	aacatgcccg	tccagggcac	cgccgccgac	2280
ctcatgaagc	tggctatggt	gaagctcttc	cccaggctgg	aggaaatggg	ggccaggatg	2340
ctccttcagg	tccacaacga	gctggtcctc	gaggccccaa	aagagagggc	ggaggccgtg	2400
gcccggctgg	ccaaggaggt	catggagggg	gtgtatcccc	tggccgtgcc	cctggaggtg	2460
gaggtgggga	taggggagga	ctggctctcc	gccaaggagc	accaccacca	ccaccac	2517

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2695 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60 120 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 240 gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 360 aaggagetgg tggaceteet ggggetggeg egeetegagg teeegggeta egaggeggae 420 qacqtcctqq ccaqcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480 gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540 geogactace gggecetgae eggggaegag teegacaace tteeeggggt caagggeate 600 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 780 aageteteet gggaeetgge caaggtgege aeegaeetge eeetggaggt ggaettegee aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 agcetectee aegagttegg cettetggaa ageeceaagg eeetggagga ggeeceetgg 900 960 cccccqccqq aaggggctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc gatettetgg ceetggeege egecagggge ggeegegtge acegggeage agacecettg 1020 1080 gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1140 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc ctgggcccct cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200 gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260 ctcgagggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320 1380 gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg tccctggagg tggccgagga gatcgcccgc ctcgaggccg aggtcttccg cctggccggc 1440 caccccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500

1560 cttcccgcca tcggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1620 gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagcaccg ggagctcacc aagctgaaga gcacctacat tgaccccttg ceggacctca tecaccccag gacgggeege 1680 ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740 1800 aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcatc gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860 gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920 1980 acqqaqaccq ccaqctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 2040 cgggcggcca agaccatcaa ettcggggtc etctacggca tgtcggccca ecgcetetec 2100 caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2160 ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2220 gtggagaccc tetteggeeg cegeegetae gtgeeagace tagaggeeeg ggtgaagage 2280 qtqcqqqaqq cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2340 ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2400 ctccttcagg tccacaacga gctggtcctc gaggccccaa aagagagggc ggaggccgtg gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460 gaggtgggga taggggagga ctggctctcc gccaaggagc accaccacca ccaccac 2517

<210> 2696

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2696

atgaattegg ggatgetgee ectetttgag eccaagggee gggteeteet ggtggaegge 60 caccacetgg ectaeegae etteeaegee etgaagggee teaeeaecag eegggggag 120 eeggtgeagg eggtetaegg ettegeeaag ageeteetea aggeeeteaa ggaggaeggg 180 gaegeggtga tegtggtett tgaegeeaag geeeeteet teegeeaega ggeetaeggg 240 gggtaeaagg egggeeggge eeceaegeeg gaggaettte eeeggeaaet egeeeteate 300 aaggagetgg tggaeeteet ggggetggeg egeetegagg teeegggeta egaggeggae 360

gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 480 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 780 aageteteet gggaeetgge caaggtgege acegaeetge eeetggaggt ggaettegee aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 agcetectee aegagttegg cettetggaa ageeceaagg eeetggagga ggeeceetgg 900 960 cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc gatettetgg ceetggeege egecagggge ggeegegtge acegggeage agaceeettg 1020 gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140 1200 ctgggcccct cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260 1320 ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380 tccctggagg tggccgagga gatcgcccgc ctcgaggccg aggtcttccg cctggccggc 1440 1500 caccccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg cttcccgcca tcggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560 gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620 1680 aagctgaaga acacctacat tgaccccttg ccggacctca tccaccccag gacgggccgc ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740 1800 aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcatc gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860 1920 gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980 cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040 2100 caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160 gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220

gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280 ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340 ctccttcagg tccacaacga gctggtcctc gaggccccaa aagaagaggc ggaggccgtg 2400 gcccggctgg ccaaggagg catggaggg gtgtatcccc tggccgtgc cctggaggtg 2460 gaggtgggga tagggagga ctggctctc gccaaggagc accaccac ccaccac 2517

<210> 2697

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2697 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120 180 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 360 aaqqaqctqq tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480 540 gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 720 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg aageteteet gggacetgge caaggtgege aeegacetge eeetggaggt ggacttegee 780 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 900 agcetectee acgagttegg cettetggaa agceceaagg ceetggagga ggcceeetgg ccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960 gatettetgg ceetggeege egecagggge ggeegegtge acegggeage agacecettg 1020 gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080

1140 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1200 ctgggcccct cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260 ctcgagggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320 1380 gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg tccctggagg tggccgagga gatcgcccgc ctcgaggccg aggtcttccg cctggccggc 1440 1500 caccccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg cttcccgcca tcggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560 gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620 1680 aagetgaaga geacetaegt ggacecettg eeggacetea tecaceceag gaegggeege 1740 ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcatc 1800 1860 gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1920 gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1980 acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040 caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100 2160 ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2220 gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2280 gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340 2400 ctccttcagg tccacaacga gctggtcctc gaggccccaa aagagagggc ggaggccgtg gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460 2517 gaggtgggga taggggagga ctggctctcc gccaaggagc accaccacca ccaccac

<210> 2698

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2698						
		cctctttgag	cccaagggcc	gggtcctcct	ggtggacggc	60
caccacctgg	cctaccgcac	cttccacgcc	ctgaagggcc	tcaccaccag	ccggggggag	120
ccggtgcagg	cggtctacgg	cttcgccaag	agcctcctca	aggccctcaa	ggaggacggg	180
gacgcggtga	tcgtggtctt	tgacgccaag	gcccctcct	tccgccacga	ggcctacggg	240
gggtacaagg	cgggccgggc	ccccacgccg	gaggactttc	cccggcaact	cgccctcatc	300
aaggagctgg	tggacctcct	ggggctggcg	cgcctcgagg	tcccgggcta	cgaggcggac	360
gacgtcctgg	ccagcctggc	caagaaggcg	gaaaaggagg	gctacgaggt	ccgcatcctc	420
accgccgaca	aagaccttta	ccagctcctt	tccgaccgca	tccacgtcct	ccaccccgag	480
gggtacctca	tcaccccggc	ctggctttgg	gaaaagtacg	gcctgaggcc	cgaccagtgg	540
gccgactacc	gggccctgac	cggggacgag	tccgacaacc	ttcccggggt	caagggcatc	600
ggggagaaga	cggcgaggaa	gcttctggag	gagtggggga	gcctggaagc	cctcctcaag	660
aacctggacc	ggctgaagcc	cgccatccgg	gagaagatcc	tggcccacat	ggacgatctg	720
aagctctcct	gggacctggc	caaggtgcgc	accgacctgc	ccctggaggt	ggacttcgcc	780
aaaaggcggg	agcccgaccg	ggagaggctt	agggcctttc	tggagaggct	tgagtttggc	840
agcctcctcc	acgagttcgg	ccttctggaa	agccccaagg	ccctggagga	ggccccctgg	900
cccccgccgg	aaggggcctt	cgtgggcttt	gtgctttccc	gcaaggagcc	catgtgggcc	960
gatcttctgg	ccctggccgc	cgccaggggc	ggccgcgtgc	accgggcagc	agaccccttg	1020
gcggggctaa	aggacctcaa	ggaggtccgg	ggcctcctcg	ccaaggacct	cgccgtcttg	1080
gcctcgaggg	aggggctaga	cctcgtgccc	ggggacgacc	ccatgctcct	cgcctacctc	1140
ctgggcccct	cgaacaccac	ccccgagggg	gtggcgcggc	gctacggggg	ggagtggacg	1200
gaggacgccg	cccaccgggc	cctcctctcg	gagaggctcc	atcggaacct	ccttaagcgc	1260
ctcgaggggg	aggagaagct	cctttggctc	taccacgagg	tggaaaagcc	cctctcccgg	1320
gtcctggccc	atatggaggc	cacgggggtg	cgcctggacg	tggcctatct	cagggccttg	1380
tccctggagg	tggccgagga	gatcgcccgc	ctcgaggccg	aggtcttccg	cctggccggc	1440
caccccttca	acctcaactc	ccgggaccag	ctggaaaggg	tcctctttga	cgagctaggg	1500
cttcccgcca	tcggcaagac	ggagaagacc	ggcaagcgct	ccaccagcgc	cgccgtcctg	1560
gaggccctcc	gcgaggccca	ccccatcgtg	gagaagatcc	tgcagtaccg	ggagctcacc	1620
aagctgaaga	gcacctacat	tgaccccttg	ccgagcctcg	tccaccccag	gacgggccgc	1680
ctccacaccc	gcttcaacca	gacggccacg	gccacgggca	ggctaagtag	ctccgatccc	1740
aacctccaga	acatccccgt	ccgcaccccg	cttgggcaga	ggatccgccg	ggccttcatc	1800
gccgaggagg	ggtggctatt	ggtggccctg	gactatagcc	agatagagct	cagggtgctg	1860

gcccacctet ceggegaega gaacetgate egggtettee aggaggggeg ggacatecae 1920 acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980 egggeggeea agaceateaa etteggggte etetaeggea tgteggeeea eegeetetee 2040 caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100 ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160 gtggagacce tetteggeeg cegeegetae gtgeeagace tagaggeeeg ggtgaagage 2220 gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280 ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340 ctccttcagg tccacaacga gctggtcctc gaggccccaa aagagagggc ggaggccgtg 2400 gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460 gaggtgggga taggggagga ctggctctcc gccaaggagc accaccacca ccaccac 2517

<210> 2699

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2699 atgaatteeg aggegatget teegetettt gaacecaaag geegggteet eetggtggae 60 ggccaccacc tggcctaccg caccttette gecetgaagg geetcaccae gageegggge 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 geggaegaeg ttetegeeae eetggeeaag aaggeggaaa aggaggggta egaggtgege 420 atcctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720

gaagacctca	ggctctcctt	ggagctctcc	cgggtgcgca	ccgacctccc	cctggaggtg	780
gacctcgccc	aggggcggga	gcccgaccgg	gaggggctta	gggccttcct	ggagaggctg	840
gagttcggca	gcctcctcca	cgagttcggc	ctcctggagg	ccccgcccc	cctggaggag	900
gcccctggc	ccccgccgga	aggggccttc	gtgggcttcg	tcctctcccg	ccccgagccc	960
atgtgggcgg	agcttaaagc	cctggccgcc	tgcagggacg	gccgggtgca	ccgggcagca	1020
gaccccttgg	cggggctaaa	ggacctcaag	gaggtccggg	gcctcctcgc	caaggacctc	1080
gccgtcttgg	cctcgaggga	ggggctagac	ctcgtgcccg	gggacgaccc	catgctcctc	1140
gcctacctcc	tgggcccctc	gaacaccacc	cccgaggggg	tggcgcggcg	ctacgggggg	1200
gagtggacgg	aggacgccgc	ccaccgggcc	ctcctctcgg	agaggctcca	tcggaacctc	1260
cttaagcgcc	tcgaggggga	ggagaagctc	ctttggctct	accacgaggt	ggaaaagccc	1320
ctctcccggg	tcctggccca	tatggaggcc	accggggtac	ggctggacgt	ggcctacctt	1380
caggcccttt	ccctggagct	tgcggaggag	atccgccgcc	tcgaggagga	ggtcttccgc	1440
ttggcgggcc	accccttcaa	cctcaactcc	cgggaccagc	tggaaagggt	gctctttgac	1500
gagcttaggc	ttcccgcctt	ggggaagacg	caaaagacag	gcaagcgctc	caccagcgcc	1560
gcggtgctgg	aggccctacg	ggaggcccac	cccatcgtgg	agaagatcct	ccagcaccgg	1620
gagctcacca	agctcaagaa	cacctacgtg	gaccccctcc	caagcctcgt	ccacccgagg	1680
acgggccgcc	tccacacccg	cttcaaccag	acggccacgg	ccacggggag	gcttagtagc	1740
tccgacccca	acctgcagaa	catccccgtc	cgcaccccct	tgggccagag	gatccgccgg	1800
gccttcgtgg	ccgaggcggg	ttgggcgttg	gtggccctgg	actatagcca	gatagagctc	1860
cgcgtcctcg	cccacctctc	cggggacgaa	aacctgatca	gggtcttcca	ggagggaag	1920
gacatcgcca	cccagaccgc	aagctggatg	ttcggcgtcc	ccccggaggc	cgtggacccc	1980
ctgatgcgcc	gggcggccaa	gacggtgaac	ttcggcgtcc	tctacggcat	gtccgcccat	2040
aggctctccc	aggagcttgc	catcccctac	gaggaggcgg	tggcctttat	agagcgctac	2100
ttccaaagct	tccccaaggt	gcgggcctgg	atagaaaaga	ccctggagga	ggggaggaag	2160
cggggctacg	tggaaaccct	cttcggaaga	aggcgctacg	tgcccgacct	caacgcccgg	2220
gtgaagagcg	tcagggaggc	cgcggagcgc	atggccttca	acatgcccgt	ccagggcacc	2280
gccgccgacc	tcatgaagct	cgccatggtg	aagctcttcc	cccgcctccg	ggagatgggg	2340
gcccgcatgc	tcctccaggt	ccacaacgag	ctcctcctgg	aggcccccca	agcgcgggcc	2400
gaggaggtgg	cggctttggc	caaggaggcc	atggagaagg	cctatcccct	cgccgtgccc	2460
ctggaggtgg	aggtggggat	gggggaggac	tggctttccg	ccaagggtca	ccaccaccac	2520
caccac						2526

<210> 2700

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2700 atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60 120 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 300 tacgaggeet acaaggeggg gagggeeeeg acceeegagg actteeeeeg geagetegee 360 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 420 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc atecteaceg ecgacegega cetetaceaa etegteteeg acegegtege egteeteeae 480 540 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 660 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 780 gaagacetea ggeteteett ggagetetee egggtgegea eegaeeteee eetggaggtg 840 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 900 gagtteggea geeteeteea egagttegge eteetggagg eeceegeece eetggaggag gececetgge eccegecgga aggggeette gtgggetteg teeteteeeg eccegagece 960 1020 atgtgggcgg agettaaage eetggeegee tgeaggggeg geegegtgea eegggeagea 1080 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc geogtettgg cetegaggga ggggetagae etegtgeeeg gggaegaeee eatgeteete 1140 1200 gectacetee tgggeceete gaacaceace eeegaggggg tggegeggeg etaegggggg 1260 gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1320 cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1380 ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt caggecettt eeetggaget tgeggaggag ateegeegee tegaggagga ggtetteege 1440

ttggcgggcc acceetteaa eeteaaetee egggaceage tggaaagggt getetttgae 1500 gagettagge ttecegeett ggggaagaeg caaaagaeag geaagegete caecagegee 1560 geggtgetgg aggeeetaeg ggaggeeeae cecategtgg agaagateet ceageaeegg 1620 gageteacca ageteaagaa cacetaegtg gaceceetee caageetegt ceaceegagg 1680 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740 teegaceeca acetgeagaa cateecegte egeaceeect tgggeeagag gateegeegg 1800 gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860 egegteeteg eecacetete eggggaegaa aacetgatea gggtetteea ggaggggaag 1920 gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccggaggc cgtggacccc 1980 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat 2040 aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae 2100 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220 gtgaagagcg tcagggaggc cgcggaggcc atggccttca acatgcccgt ccagggcacc 2280 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340 gcccgcatgc tcctccaggt ccacaacgag ctcctcctgg aggcccccca agcgcgggcc 2400 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520 caccac 2526

<210> 2701

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2701

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240

tacgaggeet acaaggeggg gagggeeeeg acceeegagg actteeeeeg geagetegee 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420 atceteaceg cegacegega cetetaceaa etegteteeg acegegtege egteeteeac 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 600 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 720 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg gaagacetca ggeteteett ggagetetee egggtgegea eegaeeteee eetggaggtg 780 840 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 900 gagttcggca gcctcctcca cgagttcggc ctcctggagg cccccgcccc cctggaggag gcccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960 atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020 1080 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 1200 gcctacctcc tgggcccctc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1260 cttaagcgcc tcgagggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320 1380 ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440 1500 ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac gagettagge ttecegeett ggggaagaeg caaaagaeag geaagegete caceagegee 1560 gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg 1620 gageteacea ageteaagaa cacetaegtg gaceceetee caageetegt ecaceegagg 1680 1740 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc tecgaeecca acetgeagaa cateceegte egeaeeceet tgggeeagag gateegeegg 1800 1860 gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1920 cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccggaggc cgtggacccc 1980 2040 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae 2100 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160 2220 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340 2400 gcccgcatgc tcctccaggt cgccaacgag ctcctcctgg aggcccccca agcgcgggcc gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520 2526 caccac

<210> 2702

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2702 atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60 120 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 180 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 240 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc tacgaggeet acaaggeggg gagggeeeeg acceeegagg actteeeeeg geagetegee 300 360 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420 480 atceteaceg ecgacegega cetetaceaa etegteteeg acegegtege egteeteeac 540 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 660 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 720 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg gaagacetea ggeteteett ggagetetee egggtgegea eegaeeteee eetggaggtg 780 840 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg gagtteggea geeteeteea egagttegge eteetggagg eeeeegeeee eetggaggag 900

gccccctggc	ccccgccgga	aggggccttc	gtgggcttcg	tcctctcccg	ccccgagccc	960
atgtgggcgg	agcttaaagc	cctggccgcc	tgcaggggcg	gccgcgtgca	ccgggcagca	1020
gaccccttgg	cggggctaaa	ggacctcaag	gaggtccggg	gcctcctcgc	caaggacctc	1080
gccgtcttgg	cctcgaggga	ggggctagac	ctcgtgcccg	gggacgaccc	catgctcctc	1140
gcctacctcc	tgggcccctc	gaacaccacc	cccgaggggg	tggcgcggcg	ctacgggggg	1200
gagtggacgg	aggacgccgc	ccaccgggcc	ctcctctcgg	agaggctcca	tcggaacctc	1260
cttaagcgcc	tcgaggggga	ggagaagctc	ctttggctct	accacgaggt	ggaaaagccc	1320
ctctcccggg	tcctggccca	tatggaggcc	accggggtac	ggctggacgt	ggcctacctt	1380
caggcccttt	ccctggagct	tgcggaggag	atccgccgcc	tcgaggagga	ggtcttccgc	1440
ttggcgggcc	accccttcaa	cctcaactcc	cgggaccagc	tggaaagggt	gctctttgac	1500
gagcttaggc	ttcccgcctt	gaagaagacg	aagaagacag	gcaagcgctc	caccagcgcc	1560
gcggtgctgg	aggccctacg	ggaggcccac	cccatcgtgg	agaagatcct	ccagcaccgg	1620
gagctcacca	agctcaagaa	cacctacgtg	gaccccctcc	caagcctcgt	ccacccgagg	1680
acgggccgcc	tccacacccg	cttcaaccag	acggccacgg	ccacggggag	gcttagtagc	1740
tccgacccca	acctgcagaa	catccccgtc	cgcaccccct	tgggccagag	gatccgccgg	1800
gccttcgtgg	ccgaggcggg	ttgggcgttg	gtggccctgg	actatagcca	gatagagctc	1860
cgcgtcctcg	cccacctctc	cggggacgaa	aacctgatca	gggtcttcca	ggagggaag	1920
gacatccaca	cccagaccgc	aagctggatg	ttcggcgtcc	ccccggaggc	cgtggacccc	1980
ctgatgcgcc	gggcggccaa	gacggtgaac	ttcggcgtcc	tctacggcat	gtccgcccat	2040
aggctctccc	aggagcttgc	catcccctac	gaggaggcgg	tggcctttat	agagcgctac	2100
ttccaaagct	tccccaaggt	gcgggcctgg	atagaaaaga	ccctggagga	ggggaggaag	2160
cggggctacg	tggaaaccct	cttcggaaga	aggcgctacg	tgcccgacct	caacgcccgg	2220
gtgaagagcg	tcagggaggc	cgcggagcgc	atggccttca	acatgcccgt	ccagggcacc	2280
gccgccgacc	tcatgaagct	cgccatggtg	aagctcttcc	cccgcctccg	ggagatgggg	2340
gcccgcatgc	tcctccaggt	cgccaacgag	ctcctcctgg	aggcccccca	agcgcgggcc	2400
gaggaggtgg	cggctttggc	caaggaggcc	atggagaagg	cctatcccct	cgccgtgccc	2460
ctggaggtgg	aggtggggat	gggggaggac	tggctttccg	ccaagggtca	ccaccaccac	2520
caccac						2526

<210> 2703

<211> 2526

<212> DNA

<220>

<223> Synthetic

<400> 2703 atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 180 qaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggeet acaaggeggg gagggeeeeg acceeegagg actteeeeeg geagetegee 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 420 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 480 atceteaceg eegacegega eetetaceaa etegteteeg acegegtege egteeteeae 540 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccg aggggtcagg 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 720 ctcaaqaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 780 gaagacetea ggeteteett ggagetetee egggtgegea eegaceteee eetggaggtg 840 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 900 gagttcggca gcctcctcca cgagttcggc ctcctggagg cccccgcccc cctggaggag 960 qccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020 1080 qaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1140 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc gcctacctcc tgggcccctc gaacaccacc cccgaggggg tggcgcggcg ctacggggg 1200 1260 gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1320 cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1380 ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440 1500 ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac gagettagge ttecegeett ggggaagaeg caaaagaeag geaagegete caecagegee 1560 gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg 1620

,	gagctcacca	agctcaagaa	cacctacgtg	gaccccctcc	caagcctcgt	ccacccgagg	1680
	acgggccgcc	tccacacccg	cttcaaccag	acggccacgg	ccacggggag	gcttagtagc	1740
	tccgacccca	acctgcagaa	catccccgtc	cgcaccccct	tgggccagag	gatccgccgg	1800
	gccttcgtgg	ccgaggcggg	ttgggcgttg	gtggccctgg	actatagcca	gatagagctc	1860
	cgcgtcctcg	cccacctctc	cggggacgaa	aacctgatca	gggtcttcca	ggaggggaag	1920
	gacatccaca	cccagaccgc	aagctggatg	ttcggcgtcc	ccccggaggc	cgtggacccc	1980
	ctgatgcgcc	gggcggccaa	gacggtgaac	ttcggcgtcc	tctacggcat	gtccgcccat	2040
	aggctctccc	aggagcttgc	catcccctac	gaggaggcgg	tggcctttat	agagcgctac	2100
	ttccaaagct	tccccaaggt	gcgggcctgg	atagaaaaga	ccctggagga	ggggaggaag	2160
	cggggctacg	tggaaaccct	cttcggaaga	aggcgctacg	tgcccgacct	caacgcccgg	2220
	gtgaagagcg	tcagggaggc	cgcggagcgc	atggccttca	acatgcccgt	ccagggcacc	2280
	gccgccgacc	tcatgaagct	cgccatggtg	aagctcttcc	cccgcctccg	ggagatgggg	2340
	gcccgcatgc	tcctccaggt	cgccaacgag	ctcctcctgg	aggcccccca	agcgcgggcc	2400
	gaggaggtgg	cggctttggc	caaggaggcc	atggagaagg	cctatcccct	cgccgtgccc	2460
	ctggaggtgg	aggtggggat	gggggaggac	tggctttccg	ccaagggtca	ccaccaccac	2520
	caccac						2526

<210> 2704

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400 > 2704
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60

ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120

gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180

gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240

tacgaggcct acaaggcgg gagggccccg accccgagg acttcccccg gcagctcgcc 300

ctcatcaagg agctggtga cctcctgggg tttacccgcc tcgaggtcc cggctacgag 360

gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggagggta cgaggtgcc 420

atcctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480 540 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 660 ggcatcgggg agtataccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacetca ggeteteett ggagetetee egggtgegea eegaeeteee eetggaggtg 780 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 900 gagttcggca gcctcctcca cgagttcggc ctcctggagg cccccgcccc cctggaggag geceetgge eccegeegga aggggeette gtgggetteg teeteteeeg eccegageee 960 1020 atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1080 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 1200 gectacetee tgggeeeete gaacaceaee eeegagggg tggegeggeg etacgggggg gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1260 cttaagcgcc tcgagggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320 ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt 1380 caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440 1500 ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac gagettagge ttecegeett ggggaagaeg caaaagaeag geaagegete caecagegee 1560 gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg 1620 gageteacea ageteaagaa cacetaegtg gaceceetee caageetegt ecaceegagg 1680 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740 tecgaececa acetgeagaa cateceegte egeaececet tgggeeagag gateegeegg 1800 gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860 1920 cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag 1980 gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccggaggc cgtggacccc ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat 2040 2100 aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160 2220 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280 geogeogace teatgaaget egecatggtg aagetettee eeegeeteeg ggagatgggg 2340
geoegeatge teeteeaggt egecaacgag eteeteetgg aggeeeeea agegegggee 2400
gaggaggtgg eggetttgge eaaggaggee atggagaagg eetateeeet egeegtgeee 2460
etggaggtgg aggtgggat gggggaggae tggettteeg eeaagggtea eeaecace 2520
caccac

<210> 2705

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2705 atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 300 tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 360 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420 480 atecteaceg eegacegega eetetaceaa etegteteeg acegegtege egteeteeae cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 600 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 660 ggcatcaggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 780 gaagacetca ggeteteett ggagetetee egggtgegea eegaeeteee eetggaggtg gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 gagtteggea geeteeteea egagttegge eteetggagg eeeeegeeee eetggaggag 900 geceetgge eccegeegga aggggeette gtgggetteg teeteteeeg eccegageee 960 atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080

gccgtcttgg	cctcgaggga	ggggctagac	ctcgtgcccg	gggacgaccc	catgeteete	1140
gcctacctcc	tgggcccctc	gaacaccacc	cccgaggggg	tggcgcggcg	ctacgggggg	1200
gagtggacgg	aggacgccgc	ccaccgggcc	ctcctctcgg	agaggctcca	tcggaacctc	1260
cttaagcgcc	tcgaggggga	ggagaagctc	ctttggctct	accacgaggt	ggaaaagccc	1320
ctctcccggg	tcctggccca	tatggaggcc	accggggtac	ggctggacgt	ggcctacctt	1380
caggcccttt	ccctggagct	tgcggaggag	atccgccgcc	tcgaggagga	ggtcttccgc	1440
ttggcgggcc	accccttcaa	cctcaactcc	cgggaccagc	tggaaagggt	gctctttgac	1500
gagcttaggc	ttcccgcctt	ggggaagacg	caaaagacag	gcaagcgctc	caccagcgcc	1560
gcggtgctgg	aggccctacg	ggaggcccac	cccatcgtgg	agaagatcct	ccagcaccgg	1620
gagctcacca	agctcaagaa	cacctacgtg	gaccccctcc	caagcctcgt	ccacccgagg	1680
acgggccgcc	tccacacccg	cttcaaccag	acggccacgg	ccacggggag	gcttagtagc	1740
tccgacccca	acctgcagaa	cateceegte	cgcaccccct	tgggccagag	gatccgccgg	1800
gccttcgtgg	ccgaggcggg	ttgggcgttg	gtggccctgg	actatagcca	gatagagctc	1860
cgcgtcctcg	cccacctctc	cggggacgaa	aacctgatca	gggtcttcca	ggagggaag	1920
gacatccaca	cccagaccgc	aagctggatg	ttcggcgtcc	ccccggaggc	cgtggacccc	1980
ctgatgcgcc	gggcggccaa	gacggtgaac	ttcggcgtcc	tctacggcat	gtccgcccat	2040
aggctctccc	aggagcttgc	catcccctac	gaggaggcgg	tggcctttat	agagcgctac	2100
ttccaaagct	tccccaaggt	gcgggcctgg	atagaaaaga	ccctggagga	ggggaggaag	2160
cggggctacg	tggaaaccct	cttcggaaga	aggcgctacg	tgcccgacct	caacgcccgg	2220
gtgaagagcg	tcagggaggc	cgcggagcgc	atggccttca	acatgcccgt	ccagggcacc	2280
gccgccgacc	tcatgaagct	cgccatggtg	aagctcttcc	cccgcctccg	ggagatgggg	2340
gcccgcatgc	tcctccaggt	cgccaacgag	ctcctcctgg	aggcccccca	agcgcgggcc	2400
gaggaggtgg	cggctttggc	caaggaggcc	atggagaagg	cctatcccct	cgccgtgccc	2460
ctggaggtgg	aggtggggat	gggggaggac	tggctttccg	ccaagggtca	ccaccaccac	2520
caccac						2526

<210> 2706

<211> 2517

<212> DNA

<213> Artificial Sequence

<223> Synthetic

<400> 2706 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60 120 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 180 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240 300 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 360 aaggagetgg tggaceteet ggggetggeg egeetegagg teeegggeta egaggeggae gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 480 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 540 gggtacetea teacceegge etggetttgg gaaaagtaeg geetgaggee egaceagtgg gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 660 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 aageteteet gggaeetgge caaggtgege acegaeetge eeetggaggt ggaettegee 780 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 900 agectectee acgagttegg cettetggaa ageceeaagg ceetggagga ggeceeetgg cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960 1020 gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agaccccttg geggggetaa aggaceteaa ggaggteegg ggeeteeteg eeaaggaeet egeegtettg 1080 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140 1200 ctgggcccct cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260 ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320 gtcctggccc atatggaggc caccggggta cggctggacg tggcctacct tcaggccctt 1380 1440 tccctggagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc caccccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500 cttcccgcct tgaagaagac gaagaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560 gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620 aagctcaaga acacctacgt ggaccccctc ccaagcctcg tccacccgag gacgggccgc 1680 1740 ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1800 aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcgtg

1860 gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1920 gcccacctct ccggggacga aaacctgatc agggtcttcc aggaggggaa ggacatccac 1980 acccagaccg caagctggat gttcggcgtc cccccggagg ccgtggaccc cctgatgcgc 2040 cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgccca taggctctcc caggagettg ceateceeta egaggaggeg gtggeettta tagagegeta ettecaaage 2100 ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160 gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacgcccg ggtgaagagc 2220 gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280 ctcatgaagc tcgccatggt gaagctcttc ccccgcctcc gggagatggg ggcccgcatg 2340 ctcctccagg tcgccaacga gctcctcctg gaggcccccc aagcgcgggc cgaggaggtg 2400 gcggctttgg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggtg 2460 gaggtgggga tggggggggga ctggctttcc gccaagggtc accaccacca ccaccac 2517

<210> 2707

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2707 60 atgaattcca ccccactttt tgacctggag gaacccccca agcgggtgct tctggtggac ggccaccacc tggcctaccg caccttctat gccctgagcc tcaccacctc ccggggggag 120 180 ccggtgcaga tggtctacgg cttcgcccgg agcctcctca aggccttgaa ggaggacgga 240 caggoggtgg togtggtott tgacgocaag gccccctcct tccgccacga ggcctacgag gcctacaagg cgggccgggc ccccaccccg gaggacttcc cccgccagct cgccttggtc 300 360 aagcggctgg tggaccttct gggcctggtc cgcctcgagg ccccggggta cgaggcggac 420 gacgtcctgg gcaccctggc caagaaggcc gaaagggagg ggatggaggt gcgcatcctc acgggagacc gggacttett ccageteete teegagaagg teteggteet eetgeeggae 480 540 gggaccctgg tcaccccaaa ggacgtccag gagaagtacg gggtgccccc ggagcgctgg gtggacttcc gcgccctcac gggggaccgc tcggacaaca tccccggggt ggcggggata 600 ggggagaaga ccgcccttcg actcctcgca gagtggggga gcgtggaaaa cctcctgaag 660

720 aacctggacc gggtaaagcc ggactcgctc cggcgcaaga tagaggcgca cctcgaggac ctccacctct ccttagacct ggcccgcatc cgcaccgacc tccccctgga ggtggacttt 780 aaggccctgc gccgcaggac ccccgacctg gagggcctga gggccttttt ggaggagctg 840 gagtteggaa geeteeteea egagttegge eteetgggag gggagaagee eegggaggag 900 gcccctggc ccccgcccga aggggccttc gtgggcttcc tcctttcccg caaggagccc 960 atgtgggcgg agcttctggc cctggcggcg gcctcgggcg gccgcgtgca ccgggcagca 1020 gacccettgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 1200 gectacetee tgggeeeete gaacaceaee eeegaggggg tggegeggeg etacgggggg gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1260 1320 cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1380 ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440 ttggcgggcc acccettcaa cetcaactee egggaceage tggaaagggt getetttgae 1500 gagettagge ttecegeett gaagaagaeg aagaagaeag geaagegete caccagegee 1560 geggtgetgg aggecetacg ggaggeceae eccategtgg agaagateet ecageaeegg 1620 1680 gageteacea ageteaagaa cacetaegtg gaceceetee caageetegt ecaceegagg 1740 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc tccgacccca acctgcagaa catccccgtc cgcaccccct tgggccagag gatccgccgg 1800 gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860 1920 cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccggaggc cgtggacccc 1980 2040 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae 2100 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220 gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340 2400 gcccgcatgc tcctccaggt cgccaacgag ctcctcctgg aggcccccca agcgcgggcc gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460 2520 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac

caccac 2526

<210> 2708 <211> 2514 <212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2708 atgaattccc tgcccctctt tgagcccaag ggccgggtgc ttctggtgga cggccaccac 60 ctggcctacc gtaccttttt tgccctgaag ggcctcacca ccagccgcgg ggagccggtc 120 caggeggtgt aegggtttge caagageett ttgaaggege taagggaaga eggggatgtg 180 gtgatcgtgg tgtttgacgc caaggccccc tccttccgcc accagaccta cgaggcctac 240 aaggcggggc gggctcccac ccccgaggac tttccccggc agcttgccct tatcaaggag 300 360 atggtggacc ttttgggcct ggagcgcctc gaggtgccgg gctttgaagc ggatgacgtc ctggctaccc tggccaagaa ggcggaaaag gaaggctacg aagtgcgcat cctcaccgcg 420 gaccgggacc tttaccagct tctttcggag cgaatctcca tccttcaccc ggagggttac 480 540 ctgatcaccc cggagtggct ttgggagaag tatgggctta agccttccca gtgggtggac taccgggcct tggccgggga cccttccgac aacatccccg gcgtgaaggg catcggggag 600 aagacggcgg ccaagctgat ccgggagtgg ggaagcctgg aaaaccttct taagcacctg 660 720 gaacaggtga aacctgcctc cgtgcgggag aagatcctta gccacatgga ggacctcaag 780 ctatccctgg agctatcccg ggtgcacacg gacttgctcc ttcaggtgga cttcgcccgg cgccgggagc cggaccggga ggggcttaag gcctttttgg agaggctgga gttcggaagc 840 ctcctccacg agttcggcct gttggaaagc ccggtggcgg cggaggaagc tccctggccg 900 cccccgagg gagccttcgt ggggtacgtt ctttcccgcc ccgagcccat gtgggcggag 960 cttaacgcct tggccgccgc ctggggcggc cgcgtgcacc gggcagcaga ccccttggcg 1020 gggctaaagg acctcaagga ggtccggggc ctcctcgcca aggacctcgc cgtcttggcc 1080 tegagggagg ggetagacet egtgeeeggg gaegaceeca tgeteetege etaceteetg 1140 ggcccctcga acaccaccc cgagggggtg gcgcggcgct acggggggga gtggacggag 1200 gacgccgccc accgggccct cctctcggag aggctccatc ggaacctcct taagcgcctc 1260 gagggggagg agaagctcct ttggctctac cacgaggtgg aaaagcccct ctcccgggtc 1320

,	rtaacccata	tagaagccac	cagaatacaa	ctqqacqtqq	cctaccttca	ggccctttcc	1380
					tcttccgctt		1440
							1500
					tctttgacga		
(cccgccttga	agaagacgaa	gaagacaggc	aagcgctcca	ccagcgccgc	ggtgctggag	1560
9	gccctacggg	aggcccaccc	catcgtggag	aagatcctcc	agcaccggga	gctcaccaag	1620
•	ctcaagaaca	cctacgtgga	cccctccca	agcctcgtcc	acccgaggac	gggccgcctc	1680
,	cacacccgct	tcaaccagac	ggccacggcc	acggggaggc	ttagtagctc	cgaccccaac	1740
	ctgcagaaca	tccccgtccg	caccccttg	ggccagagga	teegeeggge	cttcgtggcc	1800
,	gaggcgggtt	gggcgttggt	ggccctggac	tatagccaga	tagagctccg	cgtcctcgcc	1860
	cacctctccg	gggacgaaaa	cctgatcagg	gtcttccagg	aggggaagga	catccacacc	1920
	cagaccgcaa	gctggatgtt	cggcgtcccc	ccggaggccg	tggaccccct	gatgcgccgg	1980
	gcggccaaga	cggtgaactt	cggcgtcctc	tacggcatgt	ccgcccatag	gctctcccag	2040
	gagcttgcca	tcccctacga	ggaggcggtg	gcctttatag	agcgctactt	ccaaagcttc	2100
	cccaaggtgc	gggcctggat	agaaaagacc	ctggaggagg	ggaggaagcg	gggctacgtg	2160
	gaaaccctct	tcggaagaag	gcgctacgtg	cccgacctca	acgcccgggt	gaagagcgtc	2220
	agggaggccg	cggagcgcat	ggccttcaac	atgcccgtcc	agggcaccgc	cgccgacctc	2280
	atgaagctcg	ccatggtgaa	gctcttcccc	cgcctccggg	agatgggggc	ccgcatgctc	2340
	ctccaggtcg	ccaacgagct	cctcctggag	gcccccaag	cgcgggccga	ggaggtggcg	2400
	gctttggcca	aggaggccat	ggagaaggcc	tatcccctcg	ccgtgcccct	ggaggtggag	2460
	gtggggatgg	gggaggactg	gctttccgcc	aagggtcacc	accaccacca	ccac	2514

<210> 2709

<211> 2505

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2709
atggaggcga tgcttccgct ctttgaaccc aaaggccggg tcctcctggt ggacggccac 60
cacctggcct accgcacctt cttcgccctg aagggcctca ccacgagccg gggcgaaccg 120
gtgcaggcgg tctacggctt cgccaagagc ctcctcaagg ccctgaagga ggacgggtac 180

240 aaggeegtet tegtggtett tgaegeeaag geeceeteet teegeeaega ggeetaegag 300 gcctacaagg cggggagggc cccgaccccc gaggacttcc cccggcagct cgccctcatc aaggagetgg tggaceteet ggggtttace egeetegagg teeceggeta egaggeggae 360 gacgttctcg ccaccctggc caagaaggcg gaaaaggagg ggtacgaggt gcgcatcctc 420 accgccgacc gcgacctcta ccaactcgtc tccgaccgcg tcgccgtcct ccaccccgag 480 ggccacctca tcaccccgga gtggctttgg gagaagtacg gcctcaggcc ggagcagtgg 540 gtggacttcc gcgccctcgt gggggacccc tccgacaacc tccccggggt caagggcatc 600 660 ggggagaaga ccgccctcaa gctcctcaag gagtggggaa gcctggaaaa cctcctcaag aacctggacc gggtaaagcc agaaaacgtc cgggagaaga tcaaggccca cctggaagac 720 780 ctcaggctct ccttggagct ctcccgggtg cgcaccgacc tccccctgga ggtggacctc 840 geccagggge gggagecega eegggagggg ettagggeet teetggagag getggagtte ggcagcctcc tccacgagtt cggcctcctg gaggcccccg ccccctgga ggaggccccc 900 960 tggccccgc cggaagggc cttcgtggc ttcgtcctct cccgccccga gcccatgtgg geggagetta aageeetgge egeetgeagg gaeggeeggg tgeaeeggge ageagaeeee 1020 ttggcggggc taaaggacct caaggaggtc cggggcctcc tcgccaagga cctcgccgtc 1080 ttggcctcga gggagggct agacctcgtg cccggggacg accccatgct cctcgcctac 1140 ctcctgggcc cctccaacac caccccgag ggggtggcgc ggcgctacgg gggggagtgg 1200 acggaggacg ccgcccaccg ggccctcctc tcggagaggc tccatcggaa cctccttaag 1260 1320 cgcctcgagg gggaggagaa gctcctttgg ctctaccacg aggtggaaaa gcccctctcc cgggtcctgg cccacatgga ggccaccggg gtacggctgg acgtggccta ccttcaggcc 1380 ctttccctgg agcttgcgga ggagatccgc cgcctcgagg aggaggtctt ccgcttggcg 1440 1500 ggccacccct tcaacctcaa ctcccgggac cagctggaaa gggtgctctt tgacgagctt aggetteceg cettggggaa gacgeaaaag acaggeaage getecaceag egeegeggtg 1560 1620 ctggaggccc tacgggaggc ccaccccatc gtggagaaga tcctccagca ccgggagctc accaagetea agaacaceta egtggacece eteceaagee tegtecacee gaggaeggge 1680 cgcctccaca cccgcttcaa ccagacggcc acggccacgg ggaggcttag tagctccgac 1740 1800 cccaacctgc agaacatccc cgtccgcacc cccttgggcc agaggatccg ccgggccttc gtggccgagg cgggttgggc gttggtggcc ctggactata gccagataga gctccgcgtc 1860 1920 ctcgcccacc tctccgggga cgaaaacctg atcagggtct tccaggaggg gaaggacatc cacacccaga ccgcaagetg gatgttcggc gtccccccgg aggccgtgga ccccctgatg 1980 cgccgggcgg ccaagacggt gaacttcggc gtcctctacg gcatgtccgc ccataggctc 2040

2100 tcccaggagc ttgccatccc ctacgaggag gcggtggcct ttatagagcg ctacttccaa 2160 agcttcccca aggtgcgggc ctggatagaa aagaccctgg aggaggggag gaagcggggc tacgtggaaa ccctcttcgg aagaaggcgc tacgtgcccg acctcaacgc ccgggtgaag 2220 agcgtcaggg aggccgcgga gcgcatggcc ttcaacatgc ccgtccaggg caccgccgcc 2280 gacctcatga agctcgccat ggtgaagctc ttcccccgcc tccgggagat gggggcccgc 2340 atgetectee aggtecaega egageteete etggaggeee eecaagegeg ggeegaggag 2400 gtggcggctt tggccaagga ggccatggag aaggcctatc ccctcgccgt gcccctggag 2460 2505 gtggaggtgg ggatgggga ggactggctt tccgccaagg gttag

<210> 2710

<211> 840

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2710

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40

Phe Ala Lys Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Ala Val 50 55 60

Ile Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr 75 75 80

Gly Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg 85 90 95

Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg 100 105 110

Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu Ala

115 120 125

Lys	Lys	Ala	Glu	Lys	Glu	Gly	\mathtt{Tyr}	Glu	Val	Arg	He	Leu	Thr	Ala	Asp
-	130					135					140				

- Lys Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro 145 150 155 160
- Glu Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu 165 170 175
- Arg Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser 180 185 190
- Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu Lys 195 200 205
- Leu Leu Lys Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp 210 215 220
- Arg Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp 225 230 235 240
- Leu Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu 245 250 255
- Glu Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Gly Leu Lys 260 265 270
- Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly 275 280 285
- Leu Leu Gly Gly Glu Lys Pro Arg Glu Glu Ala Pro Trp Pro Pro Pro 290 295 300
- Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp 305 310 315
- Ala Asp Leu Leu Ala Leu Ala Ala Cys Arg Gly Gly Arg Val His Arg 325 330 335
- Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly 340 345 350
- Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp 355 360 365

Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Gly Pro 370 375 380 Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp 390 400 385 Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu Leu Lys Arg Leu Glu Glu Glu Lys Leu Leu Trp Leu Tyr 425 His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Val Phe Arg Leu Ala 470 465 Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu 485 Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly 545 550 560 Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu 565 Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu 580 585 590 Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu

620

615

Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile 625 630 His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly 720 705 710 715 Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Asn 725 730 Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn 740 Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val 755 Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu 790 795 Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly His His His His His 835 <210> 2711 <211> 2520

<212> DNA

<220>

<223> Synthetic

<400> 2711 60 atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 120 ggccaccacc tggcctaccg tacctttttt gccctgaagg gcctcaccac cagccggggg gageeggtee aggeggtgta egggtttgee aagageettt tgaaggeget aagagaagae 180 240 ggggacgcgg tgatcgtggt ctttgacgcc gaggccccct ccttccgcca cgaggcctac ggggggtaca aggcggggcg ggctcccacc cccgaggact ttccccggca gcttgccctt 300 360 atcaaggage tggtggacet cetggggttt accegeeteg aggteeeegg etaegaggeg 420 gacgacgttc tcgccaccct ggccaagaag gcggaaaagg aggggtacga ggtgcgcatc 480 ctcaccgccg acaaagacct ttaccagctc ctttccgacc gcatccacgt cctccacccc gaggggtacc tcatcacccc ggcctggctt tgggaaaagt acggcctgag gcccgaccag 540 600 tgggccgact accgggccct gaccggggac gagtccgaca accttcccgg ggtcaagggc atcggggaga agaccgccct caagctcctc aaggagtggg ggagcctgga agccctcctc 660 720 aagaacctgg accggctgaa gcccgccatc cgggagaaga tcctggccca catggacgat ctgaagctct cctgggacct ggccaaggtg cgcaccgacc tgcccctgga ggtggacttc 780 gccaaaaggc gggagcccga ccgggagggg cttaaggcct ttttggagag gctggagttc 840 900 ggcagcetce tecaegagtt eggceteetg ggaggggaga ageceeggga ggaggeeeee 960 tggccccgc cggaagggc cttcgtgggc tttgtgcttt cccgcaagga gcccatgtgg gccgatette tggccctggc cgcctgcagg ggcggccgcg tgcaccgggc agcagacccc 1020 ttggcggggc taaaggacct caaggaggtc cggggcctcc tcgccaagga cctcgccgtc 1080 ttggcctcga gggagggct agacctcgtg cccggggacg accccatgct cctcgcctac 1140 1200 ctcctgggcc cctcgaacac caccccgag ggggtggcgc ggcgctacgg gggggagtgg 1260 acggaggacg ccgcccaccg ggccctcctc tcggagaggc tccatcggaa cctccttaag cgcctcgagg gggaggagaa gctcctttgg ctctaccacg aggtggaaaa gcccctctcc 1320 1380 egggteetgg cecatatgga ggecaeeggg gtaeggetgg aegtggeeta cetteaggee 1440 ctttccctgg agcttgcgga ggagatccgc cgcctcgagg aggaggtctt ccgcttggcg 1500 ggccaccct tcaacctcaa ctcccgggac cagctggaaa gggtgctctt tgacgagctt 1560 aggetteecg cettgaagaa gacgaagaag acaggcaage getecaccag egeegeggtg 1620 ctggaggccc tacgggaggc ccaccccatc gtggagaaga tcctccagca ccgggagctc

1680 accaaqctca aqaacaccta cqtqqacccc ctcccaagcc tcgtccaccc gaggacgggc 1740 cgcctccaca cccgcttcaa ccagacggcc acggccacgg ggaggcttag tagctccgac cccaacctgc agaacatccc cgtccgcacc cccttgggcc agaggatccg ccgggccttc 1800 1860 gtggccgagg cgggttgggc gttggtggcc ctggactata gccagataga gctccgcgtc 1920 ctcgcccacc tctccgggga cgaaaacctg atcagggtct tccaggaggg gaaggacatc cacacccaga ccgcaagctg gatgttcggc gtccccccgg aggccgtgga ccccctgatg 1980 cgccgggcgg ccaagacggt gaacttcggc gtcctctacg gcatgtccgc ccataggctc 2040 2100 tcccaqqaqc ttqccatccc ctacqaqgaq qcggtggcct ttatagagcg ctacttccaa agcttcccca aggtgcgggc ctggatagaa aagaccctgg aggaggggag gaagcggggc 2160 tacgtggaaa ccctcttcgg aagaaggcgc tacgtgcccg acctcaacgc ccgggtgaag 2220 agegtcaggg aggccgcgga gcgcatggcc ttcaacatgc ccgtccaggg caccgccgcc 2280 gacctcatga agctcgccat ggtgaagctc ttcccccgcc tccgggagat gggggcccgc 2340 atgetectee aggtegeeaa egageteete etggaggeee eecaagegeg ggeegaggag 2400 gtggcggctt tggccaagga ggccatggag aaggcctatc ccctcgccgt gcccctggag 2460 gtggaggtgg ggatgggga ggactggctt tccgccaagg gtcaccacca ccaccaccac 2520

<210> 2712

<211> 836

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2712

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val 65	Phe	Val	Val	Phe	Asp 70	Ala	Lys	Ala	Pro	Ser 75	Phe	Arg	His	Glu	Ala 80
Tyr	Glu	Ala	Tyr	Lys 85	Ala	Gly	Arg	Ala	Pro 90	Thr	Pro	Glu	Asp	Phe 95	Pro
Arg	Gln	Leu	Ala 100	Leu	Ile	Lys	Glu	Leu 105	Val	Asp	Leu	Leu	Gly 110	Phe	Thr
Arg	Leu	Glu 115	Val	Pro	Gly	Tyr	Glu 120	Ala	Asp	Asp	Val	Leu 125	Ala	Thr	Leu
Ala	Lys 130	Lys	Ala	Glu	Lys	Glu 135	Gly	Tyr	Glu	Val	Arg 140	Ile	Leu	Thr	Ala
Asp 145	Arg	Asp	Leu	Tyr	Gln 150	Leu	Val	Ser	Asp	Arg 155	Val	Ala	Val	Leu	His 160
Pro	Glu	Gly	His	Leu 165	Ile	Thr	Pro	Glu	Trp 170	Leu	Trp	Glu	Lys	Tyr 175	Gly
Leu	Arg	Pro	Glu 180	Gln	Trp	Val	Asp	Phe 185	Arg	Ala	Leu	Val	Gly 190	Asp	Pro
Ser	Asp	Asn 195	Leu	Pro	Gly	Val	Lys 200	Gly	Ile	Gly	Glu	Lys 205	Thr	Ala	Leu
Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265		Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275		Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
	290					295					300		Pro		
Pro 305		Glu	Gly	Ala	Phe 310		Gly	Phe	Val	Leu 315		Arg	Pro	Glu	Pro 320

Met	Trp	Ala	Glu	125 325	Lys	Ala	Leu	Ala	330	Cys	Arg	Asp	GIĀ	335	vai
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Gly	Lys	Thr 510	Gln	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535		Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545		Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly

Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
Pro	Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp
Ala	Leu 610	Val	Ala	Leu	Asp	Tyr 615	Ser	Gln	Ile	Glu	Leu 620	Arg	Val	Leu	Ala
His 625	Leu	Ser	Gly	Asp	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Lys 640
Asp	Ile	His	Thr	Gln 645	Thr	Ala	Ser	Trp	Met 650	Phe	Gly	Val	Pro	Pro 655	Glu
Ala	Val	Asp	Pro 660	Leu	Met	Arg	Arg	Ala 665	Ala	Lys	Thr	Val	Asn 670	Phe	Gly
Val	Leu	Tyr 675	Gly	Met	Ser	Ala	His 680	Arg	Leu	Ser	Gln	Glu 685	Leu	Ala	Ile
Pro	Tyr 690	Glu	Glu	Ala	Val	Ala 695	Phe	Ile	Glu	Arg	Tyr 700	Phe	Gln	Ser	Phe
Pro 705	Lys	Val	Arg	Ala	Trp 710	Ile	Glu	Lys	Thr	Leu 715	Glu	Glu	Gly	Arg	Lys 720
Arg	Gly	Tyr	Val	Glu 725	Thr	Leu	Phe	Gly	Arg 730	Arg	Arg	Tyr	Val	Pro 735	Asp
Leu	Asn	Ala	Arg 740	Val	Lys	Ser	Val	Arg 745	Glu	Ala	Ala	Glu	Arg 750	Met	Ala
Phe	Asn	Met 755	Pro	Val	Gln	Gly	Thr 760	Ala	Ala	Asp	Leu	Met 765	Lys	Leu	Ala
Met	Val 770	Lys	Leu	Phe	Pro	Arg 775	Leu	Arg	Glu	Met	Gly 780	Ala	Arg	Met	Leu
Leu 785	Gln	Val	His	Asp	Glu 790	Leu	Leu	Leu	Glu	Ala 795	Pro	Gln	Ala	Arg	Ala 800
Glu	Glu	Val	Ala	Ala 805	Leu	Ala	Lys	Glu	Ala 810	Met	Glu	Lys	Ala	Tyr 815	Pro

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly 835

<210> 2713

<211> 2511

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2713

atgaatteeg aggegatget teegetettt gaacccaaag geegggteet cetggtggae 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct qaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 geggaegaeg ttetegeeae eetggeeaag aaggeggaaa aggaggggta egaggtgege 420 atceteaceg cegacegega cetetaceaa etegteteeg acegegtege egteeteeae 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaaq 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacetca ggeteteett ggagetetee egggtgegea eegaceteee eetggaggtg 780 gacctegece aggggeggga geeegacegg gaggggetta gggeetteet ggagaggetg 840 gagtteggea geeteeteea egagttegge eteetggagg eeceegeeee eetggaggag 900 gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccqaqccc 960 atgtgggcgg agcttaaagc cctggccgcc tgcagggacg gccgggtgca ccgggcagca 1020 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 gcctacctcc tgggcccctc caacaccacc cccgagggg tggcgcggcg ctacgggggg 1200

```
gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc
                                                                     1260
cttaagcgcc tcgagggga ggagaagctc ctttggctct accacgaggt ggaaaagccc
                                                                     1320
ctctcccggg tcctggccca catggaggcc accggggtac ggctggacgt ggcctacctt
                                                                     1380
caggecettt eeetggaget tgeggaggag ateegeegee tegaggagga ggtetteege
                                                                     1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac
                                                                     1500
gagettagge ttecegeett ggggaagaeg caaaagaeag geaagegete caceagegee
                                                                     1560
gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg
                                                                     1620
gageteacca ageteaagaa cacetaegtg gaceceetee caageetegt ceaceegagg
                                                                     1680
acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc
                                                                     1740
tecgaececa acetgeagaa cateceegte egeaececet tgggeeagag gateegeegg
                                                                     1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc
                                                                     1860
egegteeteg eccaeetete eggggaegaa aacetgatea gggtetteea ggaggggaag
                                                                     1920
gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccggaggc cgtggacccc
                                                                     1980
ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat
                                                                     2040
aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae
                                                                     2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag
                                                                     2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg
                                                                     2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc
                                                                     2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg
                                                                     2340
gcccgcatgc tectecaggt ccacgacgag etcetectgg aggecececa agegeggee
                                                                     2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc
                                                                     2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtta g
                                                                    2511
```

<210> 2714

<211> 836

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2714

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 215 220

Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu 225 230 235 240

Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu 245 250 255

Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Asp	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Gly	Lys	Thr 510	Gln	Lys

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 595 600 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 615 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 630 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 650 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 680 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 765 760

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 775

Leu Gln Val His Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala 790

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu

Ser Ala Lys Gly 835

<210> 2715

<211> 2511

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2715

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggeet acaaggeggg gagggeeeeg acceeegagg actteeeeeg geagetegee 300 360 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 420 geggaegaeg ttetegeeae eetggeeaag aaggeggaaa aggaggggta egaggtgege atcotcaccg ccgaccgcga cotctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480 540 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 660 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720

60

gaagacctca	ggctctcctt	ggagctctcc	cgggtgcgca	ccgacctccc	cctggaggtg	780
gacctcgccc	aggggcggga	gcccgaccgg	gaggggctta	gggccttcct	ggagaggctg	840
gagttcggca	gcctcctcca	cgagttcggc	ctcctggagg	ccccgcccc	cctggaggag	900
gcccctggc	ccccgccgga	aggggccttc	gtgggcttcg	tcctctcccg	ccccgagccc	960
atgtgggcgg	agcttaaagc	cctggccgcc	tgcagggacg	gccgggtgca	ccgggcagca	1020
gaccccttgg	cggggctaaa	ggacctcaag	gaggtccggg	gcctcctcgc	caaggacctc	1080
gccgtcttgg	cctcgaggga	ggggctagac	ctcgtgcccg	gggacgaccc	catgctcctc	1140
gcctacctcc	tgggcccctc	caacaccacc	cccgaggggg	tggcgcggcg	ctacgggggg	1200
gagtggacgg	aggacgccgc	ccaccgggcc	ctcctctcgg	agaggctcca	tcggaacctc	1260
cttaagcgcc	tcgaggggga	ggagaagctc	ctttggctct	accacgaggt	ggaaaagccc	1320
ctctcccggg	tcctggccca	catggaggcc	accggggtac	ggctggacgt	ggcctacctt	1380
caggcccttt	ccctggagct	tgcggaggag	atccgccgcc	tcgaggagga	ggtcttccgc	1440
ttggcgggcc	accccttcaa	cctcaactcc	cgggaccagc	tggaaagggt	gctctttgac	1500
gagcttaggc	ttcccgcctt	ggggaagacg	caaaagacag	gcaagcgctc	caccagcgcc	1560
gcggtgctgg	aggccctacg	ggaggcccac	cccatcgtgg	agaagatcct	ccagcaccgg	1620
gagctcacca	agctcaagaa	cacctacgtg	gaccccctcc	caagcctcgt	ccacccgagg	1680
acgggccgcc	tccacacccg	cttcaaccag	acggccacgg	ccacggggag	gcttagtagc	1740
tccgacccca	acctgcagaa	catccccgtc	cgcaccccct	tgggccagag	gatccgccgg	1800
gccttcgtgg	ccgaggcggg	ttgggcgttg	gtggccctgg	actatagcca	gatagagctc	1860
cgcgtcctcg	cccacctctc	cggggacgaa	aacctgatca	gggtcttcca	ggaggggaag	1920
gacatccaca	cccagaccgc	aagctggatg	ttcggcgtcc	ccccggaggc	cgtggacccc	1980
ctgatgcgcc	gggcggccaa	gacggtgaac	ttcggcgtcc	tctacggcat	gtccgcccat	2040
aggctctccc	aggagcttgc	catcccctac	gaggaggcgg	tggcctttat	agagcgctac	2100
ttccaaagct	tccccaaggt	gcgggcctgg	atagaaaaga	ccctggagga	ggggaggaag	2160
cggggctacg	tggaaaccct	cttcggaaga	aggcgctacg	tgcccgacct	caacgcccgg	2220
gtgaagagcg	tcagggaggc	cgcggagcgc	atggccttca	acatgcccgt	ccagggcacc	2280
gccgccgacc	tcatgaagct	cgccatggtg	aagctcttcc	cccgcctccg	ggagatgggg	2340
gcccgcatgc	tcctccaggt	ccacaacgag	ctcctcctgg	aggcccccca	agcgcgggcc	2400
gaggaggtgg	cggctttggc	caaggaggcc	atggagaagg	cctatcccct	cgccgtgccc	2460
ctggaggtgg	aggtggggat	gggggaggac	tggctttccg	ccaagggtta	g	2511

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2716 atgaatteeg aggegatget teegetettt gaacceaaag geegggteet eetggtggae 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 geggaegaeg ttetegeeae eetggeeaag aaggeggaaa aggagggta egaggtgege 420 atceteaceg eegacegega eetetaecaa etegteteeg acegegtege egteeteeae 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacetea ggeteteett ggagetetee egggtgegea eegaeeteee eetggaggtg 780 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 gagttcggca gcctcctcca cgagttcggc ctcctggagg cccccgcccc cctggaggag 900 gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccqagccc 960 atgtgggcgg agettaaage eetggeegee tgeagggaeg geegggtgea eegggeagea 1020 gacccettgg eggggetaaa ggaceteaag gaggteeggg geeteetege caaggacete 1080 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 gectaectee tgggeceete caacaccaec eeegaggggg tggegeggeg etaegggggg 1200 gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1260 cttaagcgcc tcgagggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320 ctctcccggg tcctggccca catggaggcc accggggtac ggctggacgt ggcctacctt 1380 caggecettt ceetggaget tgeggaggag ateegeegee tegaggagga ggtetteege 1440 ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500

gagettagge ttecegeett ggggaagaeg caaaagaeag geaagegete caceagegee 1560 gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg 1620 gageteacea ageteaagaa eacetaegtg gaceceetee caageetegt eeaceegagg 1680 acgggccgcc tccacacccg cttcaaccag acggccacqq ccacqqqqaq qcttaqtaqc 1740 tecgacecca acetgeagaa cateceegte egeaceceet tgggeeagag gateegeegg 1800 gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860 egegteeteg eecacetete eggggaegaa aacetgatea gggtetteea qqaqqqaaq 1920 gacatecaca eccagacege aagetggatg tteggegtee ecceggagge egtggaceee 1980 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat qtccqccat 2040 aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae 2100 ttccaaaget teeccaaggt gegggeetgg atagaaaaga eeetggagga ggggaggaag 2160 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220 gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280 geogeogace teatgaaget egecatggtg aagetettee eeegecteeg ggaqatgggg 2340 gcccgcatgc tcctccaggt ccacaacgag ctcctcctgg aggcccccca agcgcggcc 2400 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520 caccac 2526

<210> 2717

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2717

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly

- Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60
- Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80
- Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95
- Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
 100 105 110
- Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125
- Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140
- Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160
- Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly 165 170 175
- Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190
- Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205
- Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 225 220
- Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu 225 230 235 240
- Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu 245 250 255
- Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly 260 265 270
- Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu 275 280 285

Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Asp	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Gly	Lys	Thr 510	Gln	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arq 545 550 Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 615 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 630 635 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 . Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val His Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala

785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835 840

<210> 2718

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2718

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcqt gqtctttgac gccaaggccc cctccttccq ccacgaggcc 240 tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 geggaegaeg ttetegeeae eetggeeaag aaggeggaaa aggagggta egaggtgege 420 atoctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 720 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg gaagacetea ggeteteett ggagetetee egggtgegea eegaceteee eetggaggtg 780 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 900 gagtteggea geeteeteea egagttegge eteetggagg eeceegeeee eetggaggag gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960

```
atgtgggcgg agettaaage cetggeegee tgeaggggeg geegegtgea eegggeagea
                                                                     1020
gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc
                                                                     1080
geogtettgg cetegaggga ggggetagae etegtgeeeg gggaegaeee catgeteete
                                                                     1140
gectacetee tgggeeeete gaacaceaee eeegaggggg tggegeggeg etacgggggg
                                                                     1200
                                                                     1260
gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc
                                                                     1320
ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt
                                                                     1380
caggecettt ceetggaget tgeggaggag ateegeegee tegaggagga ggtetteege
                                                                     1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac
                                                                     1500
gagettagge tteeegeett ggggaagaeg caaaagaeag geaagegete caecagegee
                                                                     1560
gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg
                                                                     1620
gageteacea ageteaagaa eacetaegtg gaceceetee eaageetegt eeaceegagg
                                                                     1680
acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc
                                                                     1740
tecgaececa acetgeagaa cateceegte egeaececet tgggeeagag gateegeegg
                                                                     1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc
                                                                     1860
egegteeteg eccaectete eggggaegaa aacetgatea gggtetteea ggaggggaag
                                                                     1920
gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccggaggc cgtggacccc
                                                                     1980
ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat
                                                                     2040
aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae
                                                                     2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag
                                                                     2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg
                                                                     2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc
                                                                     2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg
                                                                     2340
gcccgcatgc tcctccaggt ccacaacgag ctcctcctgg aggcccccca agcgcgggcc
                                                                     2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc
                                                                     2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac
                                                                     2520
caccac
                                                                     2526
```

<210> 2719

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2719

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 105 Leu Leu Gly Phe Thr

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 220

Asp 225	Arg	Val	ьуs	Pro	230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Let 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu	Glu	Leu	Ala	Glu	Glu	Ile	Arg	Arg	Leu	Glu	Glu	Glu	Val	Phe	Arg

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
485 490 495

Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys 500 505 510

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
515 520 525

Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys 530 540

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg 545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly 565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 635 635

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val His Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 790 Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly His His His His His <210> 2720 <211> 2526 <212> DNA <213> Artificial Sequence <220> <223> Synthetic <400> 2720 atgaattcca ccccactttt tgacctggag gaacccccca agcgggtgct tctggtggac 60 ggccaccacc tggcctaccg caccttctat gccctgagcc tcaccacctc ccggggggag 120 ccggtgcaga tggtctacgg cttcgcccgg agcctcctca aggccttgaa ggaggacgga 180 caggeggtgg tegtggtett tgacgecaag geceeteet teegecaega ggeetaegag 240 gcctacaagg cgggccgggc ccccaccccg gaggacttcc cccgccagct cgccttggtc 300 aagcggctgg tggaccttct gggctttacc cgcctcgagg ccccggggta cgaggcggac 360 gacgtcctgg gcaccctggc caagaaggcc gaaagggagg ggatggaggt gcgcatcctc 420 acgggagacc gggacttctt ccagctcctc tccgagaagg tctcggtcct cctgccggac 480

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp

730

725

gggaccctgg	tcaccccaaa	ggacgtccag	gagaagtacg	gggtgccccc	ggagcgctgg	540
gtggacttcc	gcgccctcac	gggggaccgc	tcggacaaca	tccccggggt	ggcggggata	600
ggggagaaga	ccgcccttcg	actcctcgca	gagtgggga	gcgtggaaaa	cctcctgaag	660
aacctggacc	gggtaaagcc	ggactcgctc	cggcgcaaga	tagaggcgca	cctcgaggac	720
ctccacctct	ccttagacct	ggcccgcatc	cgcaccgacc	tccccctgga	ggtggacttt	780
aaggccctgc	gccgcaggac	ccccgacctg	gagggcctga	gggccttttt	ggaggagctg	840
gagttcggaa	gcctcctcca	cgagttcggc	ctcctgggag	gggagaagcc	ccgggaggag	900
gccccctggc	ccccgcccga	aggggccttc	gtgggcttcc	tcctttcccg	caaggagccc	960
atgtgggcgg	agcttctggc	cctggcggcg	gcctcgggcg	gccgcgtcca	ccgggcaaca	1020
agcccggttg	aggccctggc	ggacctcaag	gaggtccggg	gcctcctcgc	caaggacctc	1080
gccgtcttgg	cctcgaggga	ggggctagac	ctcgtgcccg	gggacgaccc	catgctcctc	1140
gcctacctcc	tgggcccctc	gaacaccacc	cccgaggggg	tggcgcggcg	ctacgggggg	1200
gagtggacgg	aggacgccgc	ccaccgggcc	ctcctctcgg	agaggctcca	tcggaacctc	1260
cttaagcgcc	tcgaggggga	ggagaagctc	ctttggctct	accacgaggt	ggaaaagccc	1320
ctctcccggg	tcctggccca	tatggaggcc	accggggtac	ggctggacgt	ggcctacctt	1380
caggcccttt	ccctggagct	tgcggaggag	atccgccgcc	tcgaggagga	ggtcttccgc	1440
ttggcgggcc	accccttcaa	cctcaactcc	cgggaccagc	tggaaagggt	gctctttgac	1500
gagcttaggc	ttcccgcctt	gaagaagacg	aagaagacag	gcaagcgctc	caccagcgcc	1560
gcggtgctgg	aggccctacg	ggaggcccac	cccatcgtgg	agaagatcct	ccagcaccgg	1620
gagctcacca	agctcaagaa	cacctacgtg	gaccccctcc	caagcctcgt	ccacccgagg	1680
acgggccgcc	tccacacccg	cttcaaccag	acggccacgg	ccacggggag	gcttagtagc	1740
tccgacccca	acctgcagaa	catccccgtc	cgcaccccct	tgggccagag	gatccgccgg	1800
gccttcgtgg	ccgaggcggg	ttgggcgttg	gtggccctgg	actatagcca	gatagagete	1860
cgcgtcctcg	cccacctctc	cggggacgaa	aacctgatca	gggtcttcca	ggaggggaag	1920
gacatccaca	cccagaccgc	aagctggatg	ttcggcgtcc	ccccggaggc	cgtggacccc	1980
ctgatgcgcc	gggcggccaa	gacggtgaac	ttcggcgtcc	tctacggcat	gtccgcccat	2040
aggctctccc	aggagcttgc	catcccctac	gaggaggcgg	tggcctttat	agagcgctac	2100
ttccaaagct	tccccaaggt	gcgggcctgg	atagaaaaga	ccctggagga	ggggaggaag	2160
cggggctacg	tggaaaccct	cttcggaaga	aggcgctacg	tgcccgacct	caacgcccgg	2220
gtgaagagcg	tcagggaggc	cgcggagcgc	atggccttca	acatgcccgt	ccagggcacc	2280
gccgccgacc	tcatgaagct	cgccatggtg	aagctcttcc	cccgcctccg	ggagatgggg	2340

georgeatge tectocaggt egecaaegag etectoctgg aggeorecea agegegggee 2400
gaggaggtgg eggetttgge caaggaggee atggagaagg cetateceet egecgtgeee 2460
etggaggtgg aggtggggat gggggaggae tggettteeg ceaagggtea ceaceaee 2520
caceae 2526

<210> 2721

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2721

atgaatteeg aggegatget teegetettt gaacceaaag geegggteet eetggtggae 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtge aggeggteta eggettegee aagageetee teaaggeeet gaaggaggae 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggeet acaaggeggg gagggeeeeg acceeegagg actteeeeeg geagetegee 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 geggaegaeg ttetegeeae eetggeeaag aaggeggaaa aggaggggta egaggtgege 420 atcctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctcgc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacetea ggeteteett ggagetetee egggtgegea eegaceteee eetggaggtg 780 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 gagtteggea geeteeteea egagttegge eteetggagg eeeeegeeee eetggaggag 900 gccccetggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccqaqccc 960 atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140

```
gestacetee tyggeceete gaacaceaee eeegagygg tyggegeggeg etacyggygg
                                                                     1200
                                                                     1260
gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc
                                                                     1320
eteteceggg teetggeeca tatggaggee aceggggtae ggetggaegt ggeetaeett
                                                                     1380
caggecettt eeetggaget tgeggaggag ateegeegee tegaggagga ggtetteege
                                                                     1440
ttggcgggcc accectteaa ceteaaetee egggaeeage tggaaagggt getetttgae
                                                                     1500
gagettagge ttecegeett gaagaagaeg aagaagaeag geaagegete eaceagegee
                                                                     1560
geggtgetgg aggeectaeg ggaggeecae cecategtgg agaagateet ceageaeegg
                                                                     1620
gageteacea ageteaagaa eacetaegtg gaceceetee eaageetegt eeaceegagg
                                                                     1680
acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc
                                                                     1740
teegaceeca acetgeagaa cateeeegte egeaceeeet tgggeeagag gateegeegg
                                                                     1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc
                                                                     1860
egegteeteg eecacetete eggggaegaa aacetgatea gggtetteea ggaggggaag
                                                                     1920
gacatecaca eccagacege aagetggatg tteggegtee ecceggagge egtggaceee
                                                                     1980
ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat
                                                                     2040
aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae
                                                                     2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag
                                                                     2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg
                                                                     2220
gtgaagageg teagggagge egeggagege atggeettea acatgeeegt eeagggeaee
                                                                     2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg
                                                                     2340
gcccgcatgc tcctccaggt cgccaacgag ctcctcctgg aggcccccca agcgcgggcc
                                                                     2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc
                                                                     2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac
                                                                     2520
caccac
                                                                     2526
```

<210> 2722

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2722

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190

Ser Asp Asn Leu Ala Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 215 220

Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu 225 230 235 240

Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg

Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Lys	Lys	Thr 510	Lys	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
	Gly			565					570					575	_
	Leu		580					585					590		
	Leu	595					600					605		_	_
	Leu 610				_	615					620				
625	Leu				630					635				_	640
	Ile			645					650					655	
Ala	Val	Asp	Pro 660	Leu	Met	Arg	Arg	Ala 665	Ala	Lys	Thr	Val	Asn 670	Phe	Gly

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp $725 \hspace{1.5cm} 730 \hspace{1.5cm} 735$

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala

740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835 840

<210> 2723

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2723

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggeet acaaggeggg gagggeeeeg acceeegagg actteeeeg geagetegee 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggagggta cgaggtgcgc 420 atcctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctcaa gggggtcaag 600

ggcatcgggg	agaagaccgc	cctcaagctc	ctcaaggagt	ggggaagcct	ggaaaacctc	660
ctcaagaacc	tggaccgggt	aaagccagaa	aacgtccggg	agaagatcaa	ggcccacctg	720
gaagacctca	ggctctcctt	ggagctctcc	cgggtgcgca	ccgacctccc	cctggaggtg	780
gacctcgccc	aggggcggga	gcccgaccgg	gaggggctta	gggccttcct	ggagaggctg	840
gagttcggca	gcctcctcca	cgagttcggc	ctcctggagg	ccccgcccc	cctggaggag	900
gccccctggc	ccccgccgga	aggggccttc	gtgggcttcg	tcctctcccg	ccccgagccc	960
atgtgggcgg	agcttaaagc	cctggccgcc	tgcaggggcg	gccgcgtgca	ccgggcagca	1020
gaccccttgg	cggggctaaa	ggacctcaag	gaggtccggg	gcctcctcgc	caaggacctc	1080
gccgtcttgg	cctcgaggga	ggggctagac	ctcgtgcccg	gggacgaccc	catgctcctc	1140
gcctacctcc	tgggcccctc	gaacaccacc	cccgaggggg	tggcgcggcg	ctacgggggg	1200
gagtggacgg	aggacgccgc	ccaccgggcc	ctcctctcgg	agaggctcca	tcggaacctc	1260
cttaagcgcc	tcgaggggga	ggagaagctc	ctttggctct	accacgaggt	ggaaaagccc	1320
ctctcccggg	tcctggccca	tatggaggcc	accggggtac	ggctggacgt	ggcctacctt	1380
caggcccttt	ccctggagct	tgcggaggag	atccgccgcc	tcgaggagga	ggtcttccgc	1440
ttggcgggcc	accccttcaa	cctcaactcc	cgggaccagc	tggaaagggt	gctctttgac	1500
gagcttaggc	ttcccgcctt	gaagaagacg	aagaagacag	gcaagcgctc	caccagegee	1560
gcggtgctgg	aggccctacg	ggaggcccac	cccatcgtgg	agaagatcct	ccagcaccgg	1620
gagctcacca	agctcaagaa	cacctacgtg	gaccccctcc	caagcctcgt	ccacccgagg	1680
acgggccgcc	tccacacccg	cttcaaccag	acggccacgg	ccacggggag	gcttagtagc	1740
tccgacccca	acctgcagaa	catccccgtc	cgcaccccct	tgggccagag	gatccgccgg	1800
gccttcgtgg	ccgaggcggg	ttgggcgttg	gtggccctgg	actatagcca	gatagagctc	1860
cgcgtcctcg	cccacctctc	cggggacgaa	aacctgatca	gggtcttcca	ggagggaag	1920
gacatccaca	cccagaccgc	aagctggatg	ttcggcgtcc	ccccggaggc	cgtggacccc	1980
ctgatgcgcc	gggcggccaa	gacggtgaac	ttcggcgtcc	tctacggcat	gtccgcccat	2040
aggctctccc	aggagcttgc	catcccctac	gaggaggcgg	tggcctttat	agagcgctac	2100
ttccaaagct	tccccaaggt	gcgggcctgg	atagaaaaga	ccctggagga	ggggaggaag	2160
cggggctacg	tggaaaccct	cttcggaaga	aggcgctacg	tgcccgacct	caacgcccgg	2220
gtgaagagcg	tcagggaggc	cgcggagcgc	atggccttca	acatgcccgt	ccagggcacc	2280
gccgccgacc	tcatgaagct	cgccatggtg	aagctcttcc	cccgcctccg	ggagatgggg	2340
gcccgcatgc	tcctccaggt	cgccaacgag	ctcctcctgg	aggcccccca	agcgcgggcc	2400
gaggaggtgg	cggctttggc	caaggaggcc	atggagaagg	cctatcccct	cgccgtgccc	2460

<210> 2724

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2724

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35 40 45

Phe Ala Lys Ser Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly

- Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190
- Ser Asp Asn Leu Lys Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205
- Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 215 220
- Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu 225 230 235 240
- Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu 245 250 255
- Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly 260 265 270
- Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu 275 280 285
- Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro 290 295 300
- Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro 305 310 315 320
- Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val 325 330 335
- His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val 340 345 350
- Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly 355 360 365
- Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu 370 380
- Gly Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly 385 390 395
- Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu 405 410 415

His Arg Asn Leu Leu Lys Arg Leu Glu Glu Glu Lys Leu Leu Trp 420 425 Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Val Phe Arg 470 480 Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys 505 Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 580 585 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 595 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 630 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly

665

660

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835 840

<210> 2725

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2725

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac

ggccaccacc tggcctaccg cacettette gecetgaagg geetcaccac gageegggge 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420 atcctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacetca ggeteteett ggagetetee egggtgegea eegaceteee eetggaggtg 780 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 gagttcggca gcctcctcca cgagttcggc ctcctggagg cccccgcccc cctggaggag 900 gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960 atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 gcctacctcc tgggcccctc gaacaccacc cccgaggggg tggcgcggcg ctacggggg 1200 gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaagaag 1260 cttaagcgcc tcgagggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320 ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt 1380 caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440 ttggcgggcc accectteaa ceteaactee egggaceage tggaaagggt getetttgae 1500 gagettagge ttecegeett gaagaagaeg aagaagaeag geaagegete caccagegee 1560 gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg 1620 gageteacea ageteaagaa cacetaegtg gaceceetee caageetegt ecaceegagg 1680 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740 teegaeeeea aeetgeagaa cateeeegte egeaeeeeet tgggeeagag gateegeegg 1800 gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860 cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag 1920

gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccggaggc cgtggacccc 1980 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat 2040 aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae 2100 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220 gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340 gcccgcatgc tcctccaggt cgccaacgag ctcctcctgg aggcccccca agcgcgggcc 2400 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520 caccac 2526

<210> 2726

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2726

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg	GIN	Leu	100	Leu	iie	гÀг	GIU	105	vai	Asp	Leu	Leu	110	Phe	Thr
Arg	Leu	Glu 115	Val	Pro	Gly	Tyr	Glu 120	Ala	Asp	Asp	Val	Leu 125	Ala	Thr	Leu
Ala	Lys 130	Lys	Ala	Glu	Lys	Glu 135	Gly	Tyr	Glu	Val	Arg 140	Ile	Leu	Thr	Ala
Asp 145	Arg	Asp	Leu	Tyr	Gln 150	Leu	Val	Ser	Asp	Arg 155	Val	Ala	Val	Leu	His 160
Pro	Glu	Gly	His	Leu 165	Ile	Thr	Pro	Glu	Trp 170	Leu	Trp	Glu	Lys	Tyr 175	Gly
Leu	Arg	Pro	Glu 180	Gln	Trp	Val	Asp	Phe 185	Arg	Ala	Leu	Val	Gly 190	Asp	Pro
Ser	Asp	Asn 195	Leu	Pro	Gly	Val	Lys 200	Gly	Ile	Gly	Glu	Lys 205	Thr	Ala	Leu
Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
	Leu		260					265					270		
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
	Gly 290					295					300				
305	Pro				310					315					320
	Trp			325					330					335	
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val

Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Lys	Lys 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Lys	Lys	Thr 510	Lys	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
Pro	Leu	Gly	Gln	Arg	Ile	Arg	Arg	Ala	Phe	Val	Ala	Glu	Ala	Gly	Trp

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 630 635

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835

<210> 2727 <211> 2526 <212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2727 atgaatteeg aggegatget teegetettt gaacceaaag geegggteet eetggtggae 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420 atceteaceg cegacegega cetetaceaa etegteteeg acegegtege egteeteeae 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacetca ggeteteett ggagetetee egggtgegea eegaceteet eetggaggtg 780 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 gagtteggea geeteeteea egagttegge eteetggagg eeeeegeeee eetggaggag 900 gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960 atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 gcctacctcc tgggcccctc gaacaccacc cccgaggggg tggcgcggcg ctacggggg 1200 gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1260 cttaagcgcc tcgagggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320 ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt 1380 caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440

ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt qctctttgac 1500 gagettagge ttecegeett gaagaagaeg aagaagaeag geaagegete caccagegee 1560 geggtgetgg aggecetaeg ggaggeeeae eecategtgg agaagateet eeageaeegg 1620 gageteacea ageteaagaa eacetaegtg gaeeeeetee eaageetegt eeaceegagg 1680 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740 tecgacecca acetgeagaa cateceegte egeaceceet tgggeeagag gateegeegg 1800 gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860 cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag 1920 gacatecaca eccagacege aagetggatg tteggegtee ecceggagge egtggacece 1980 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacqqcat qtccqcccat 2040 aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae 2100 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220 gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340 gcccgcatgc tcctccaggt cgccaacgag ctcctcctgg aggcccccca agcgcgggcc 2400 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520 caccac 2526

<210> 2728

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2728

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

цуѕ	GIY	35	1111	1111	ser	AIG	40	GIU	Pro	vai	GIN	45	vaı	Tyr	GIY
Phe	Ala 50	Lys	Ser	Leu	Leu	Lys 55	Ala	Leu	Lys	Glu	Asp 60	Gly	Tyr	Lys	Ala
Val 65	Phe	Val	Val	Phe	Asp 70	Ala	Lys	Ala	Pro	Ser 75	Phe	Arg	His	Glu	Ala 80
Tyr	Glu	Ala	Tyr	Lys 85	Ala	Gly	Arg	Ala	Pro 90	Thr	Pro	Glu	Asp	Phe 95	Pro
Arg	Gln	Leu	Ala 100	Leu	Ile	Lys	Glu	Leu 105	Val	Asp	Leu	Leu	Gly 110	Phe	Thr
Arg	Leu	Glu 115	Val	Pro	Gly	Tyr	Glu 120	Ala	Asp	Asp	Val	Leu 125	Ala	Thr	Leu
Ala	Lys 130	Lys	Ala	Glu	Lys	Glu 135	Gly	Tyr	Glu	Val	Arg 140	Ile	Leu	Thr	Ala
Asp 145	Arg	Asp	Leu	Tyr	Gln 150	Leu	Val	Ser	Asp	Arg 155	Val	Ala	Val	Leu	His 160
Pro	Glu	Gly	His	Leu 165	Ile	Thr	Pro	Glu	Trp 170	Leu	Trp	Glu	Lys	Tyr 175	Gly
Leu	Arg	Pro	Glu 180	Gln	Trp	Val	Asp	Phe 185	Arg	Ala	Leu	Val	Gly 190	Asp	Pro
Ser	Asp	Asn 195	Leu	Pro	Gly	Val	Lys 200	Gly	Ile	Gly	Glu	Lys 205	Thr	Ala	Leu
	210				Trp	215					220				
225					Glu 230					235					240
				245	Ser				250					255	
			260		Leu			265					270		
ьeu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu

- Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro 290 295 300
- Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro 305 310 315 320
- Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val 325 330 335
- His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val 340 345 350
- Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly 355 360 365
- Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu 370 375 380
- Gly Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly 385 395 400
- Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu 405 410 415
- His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
 420 425 430
- Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
 435 440 445
- Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser 450 455 460
- Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg 465 470 475 480
- Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
 485 490 495
- Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys 500 505 510
- Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
 515 520 525
- Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys

- Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg 545 550 555 560
- Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly 565 570 575
- Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 580 585 590
- Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 595 600 605
- Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 620
- His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 630 635 640
- Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 650
- Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 670
- Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685
- Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700
- Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720
- Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
 725 730 735
- Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750
- Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765
- Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835 840

<210> 2729

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2729

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420 atcctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggaggtg 780 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 gagttcggca gcctcctcca cgagttcggc ctcctggagg cccccgcccc cctggaggag 900 gccccctggc ccccgccgga aggggccttc gtgggctacg tcctctcccg ccccgagccc 960

```
atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca
                                                                     1020
gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc
                                                                     1080
gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc
                                                                     1140
gcctacctcc tgggcccctc gaacaccacc cccgaggggg tggcgcggcg ctacggggg
                                                                     1200
gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc
                                                                     1260
cttaagcgcc tcgagggga ggagaagctc ctttggctct accacgaggt ggaaaagccc
                                                                     1320
ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt
                                                                     1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc
                                                                     1440
ttggcgggcc acccettcaa cetcaactee egggaccage tggaaagggt getetttgae
                                                                     1500
gagettagge ttecegeett gaagaagaeg aagaagaeag geaagegete caccagegee
                                                                     1560
gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg
                                                                     1620
gageteacea ageteaagaa cacetaegtg gaceceetee caageetegt ceacecgagg
                                                                     1680
acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc
                                                                     1740
tccgacccca acctgcagaa catccccgtc cgcaccccct tgggccagag gatccgccgg
                                                                     1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc
                                                                     1860
cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag
                                                                     1920
gacatecaea eccagacege aagetggatg tteggegtee eeceggagge egtggacece
                                                                     1980
ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat
                                                                     2040
aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae
                                                                     2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag
                                                                     2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg
                                                                     2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc
                                                                     2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg
                                                                     2340
gcccgcatgc tcctccaggt cgccaacgag ctcctcctgg aggcccccca agcgcgggcc
                                                                     2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc
                                                                     2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac
                                                                     2520
caccac
                                                                     2526
```

<210> 2730

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2730

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 220

225	AIG	Val	пур	PIO	230	ASII	val	Arg	GIU	235	iie	гуз	Ala	HIS	240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Tyr	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
	450		Gly			455					460				
Leu	Glu	Leu	Ala	Glu	Glu	Ile	Arg	Arg	Leu	Glu	Glu	Glu	Val	Phe	Arg

Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys 500 505 510

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu 515 520 525

Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys 530 540

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg 545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly 565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 630 635

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 Ser Ala Lys Gly His His His His His <210> 2731 <211> 2526 <212> DNA <213> Artificial Sequence <220> <223> Synthetic <400> 2731 atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggeet acaaggeggg gagggeeegg acceeegagg actteeeeg geagetegee 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420 atceteaceg cegacegega cetetaceaa etegteteeg acegegtege egteeteeae 480

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp

730

725

cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagcacc tggaccaggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacetea ggeteteett ggagetetee egggtgegea eegaceteee eetggaggtg 780 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 gagttcggca gcctcctcca cgagttcggc ctcctggagg cccccgcccc cctggaggag 900 gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960 atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 gcctacctcc tgggcccctc gaacaccacc cccgaggggg tggcgcggcg ctacggggg 1200 gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1260 cttaagcgcc tcgagggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320 ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt 1380 caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440 ttggcgggcc acccettcaa cetcaactee egggaccage tggaaagggt getetttgae 1500 gagettagge tteeegeett gaagaagaeg aagaagaeag geaagegete caccagegee 1560 gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg 1620 gageteacea ageteaagaa cacetaegtg gaceceetee caageetegt ceacecgagg 1680 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740 tecgacecca acetgeagaa cateceegte egeaceceet tgggeeagag gateegeegg 1800 gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860 cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag 1920 gacatecaea eccagacege aagetggatg tteggegtee ecceggagge egtggacece 1980 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat 2040 aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae 2100 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220 gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340

gcccgcatgc tcctccaggt cgccaacgag ctcctcctgg aggccccca agcgcgggcc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtgggat gggggaggac tggctttccg ccaagggtca ccaccac 2520
caccac 2526

<210> 2732

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2732

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly 165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys His Leu 210 215 220

Asp Gln Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu 225 230 235 240

Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu 245 250 255

Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly 265 270

Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu 275 280 285

Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro 290 295 300

Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro 305 310 315 320

Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val 325 330 335

His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val340 345 350

Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly 355 360 365

Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu 370 380

Gly Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly 385 390 395 400

Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Lys	Lys	Thr 510	Lys	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
Pro	Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp
Ala	Leu 610	Val	Ala	Leu	Asp	Tyr 615	Ser	Gln	Ile	Glu	Leu 620	Arg	Val	Leu	Ala
His 625	Leu	Ser	Gly	Asp	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Lys 640
Asp	Ile	His	Thr	Gln 645	Thr	Ala	Ser	Trp	Met 650	Phe	Gly	Val	Pro	Pro	Glu

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835 840

<210> 2733

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2733 atgaatteeg aggegatget teegetettt gaacceaaag geegggteet eetggtggae 60 ggccaccacc tggcctaccg caccttette gecetgaagg geeteaceae gageegggge 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420 atcctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacetea ggeteteett ggagetetee egggtgeaca eegaceteee eetggaggtg 780 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 gagtteggea geeteeteea egagttegge eteetggagg eeeeegeeee eetggaggag 900 gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960 atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 gcctacctcc tgggcccctc gaacaccacc cccgaggggg tggcgcggcg ctacggggg 1200 gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1260 cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320 ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt 1380 caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440 ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500 gagettagge ttecegeett gaagaagaeg aagaagaeag geaagegete caccagegee 1560 gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg 1620 gagctcacca agctcaagaa cacctacgtg gaccccctcc caagcctcgt ccacccgagg 1680 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740 tecgaeeeca acetgeagaa cateeeegte egeaeeeeet tgggeeagag gateegeegg 1800 gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860

cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag 1920 gacatecaca eccagacege aagetggatg tteggegtee eeeeggagge egtggaceee 1980 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat 2040 aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae 2100 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220 gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340 gcccgcatgc tcctccaggt cgccaacgag ctcctcctgg aggcccccca agcqcqqqcc 2400 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cqccqtqccc 2460 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520 caccac 2526

<210> 2734

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2734

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
100 105 110

- Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125
- Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140
- Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160
- Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly 165 170 175
- Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190
- Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205
- Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 215 220
- Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu 225 230 235 240
- Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val His Thr Asp Leu 245 250 255
- Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly 260 265 270
- Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu 275 280 285
- Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro 290 295 300
- Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro 305 310 315 320
- Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val 325 330 335

- His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val 340 345 350
- Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly 355 360 365
- Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu 370 375 380
- Gly Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly 385 395 400
- Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu 405 410 415
- His Arg Asn Leu Leu Lys Arg Leu Glu Glu Glu Glu Lys Leu Leu Trp
 420 425 430
- Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met 435 440 445
- Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser 450 455 460
- Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg 465 470 475 480
- Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg 485 490 495
- Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys 500 505 510
- Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu 515 520 525
- Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys 530 535 540
- Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg 545 550 555 560
- Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly 565 570 575
- Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His

835 840

<210> 2735

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2735

atgaatteeg aggegatget teegetettt gaacceaaag geegggteet eetggtggae 60 ggccaccacc tggcctaccg cacettette gecetgaagg geetcaccae gageegggge 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420 atecteaceg eegacegega eetetaecaa etegteteeg acegegtege egteeteeae 480 ecegagggee aceteateae eceggagtgg etttgggaga agtaeggeet eaggeeggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacetea ggeteteett ggagetetee egggtgeaca eegaceteet eetggaggtg 780 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 gagtteggea geeteeteea egagttegge eteetggagg eeeeegeeee eetggaggag 900 gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960 atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 gcctacctcc tgggcccctc gaacaccacc cccgaggggg tggcgcggcg ctacggggg 1200 gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1260 cttaagcgcc tcgagggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320

```
ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt
                                                                     1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc
                                                                     1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac
                                                                     1500
gagettagge ttecegeett gaagaagaeg aagaagaeag geaagegete caccagegee
                                                                     1560
gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg
                                                                     1620
gageteacea ageteaagaa cacetaegtg gaeeeeetee caageetegt ecaceegagg
                                                                     1680
acgggccgcc tccaccccg cttcaaccag acggccacgg ccacggggag gcttagtagc
                                                                     1740
tecgacecca acetgeagaa cateceegte egeaceceet tgggeeagag gatecgeegg
                                                                     1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc
                                                                     1860
cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag
                                                                     1920
gacatecaca eccagacege aagetggatg tteggegtee ecceggagge egtggaceee
                                                                     1980
ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat
                                                                     2040
aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae
                                                                     2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag
                                                                     2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg
                                                                     2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc
                                                                     2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg
                                                                     2340
gcccgcatgc tcctccaggt cgccaacgag ctcctcctgg aggcccccca agcgcgggcc
                                                                     2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc
                                                                     2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac
                                                                     2520
caccac
                                                                     2526
```

<210> 2736

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2736

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 205 Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu 240 Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val His Thr Asp Leu Leu Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly

270

265

260

- Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu 275 280 285
- Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro 290 295 300
- Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro 305 310 315 320
- Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val 325 330 335
- His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val 340 345 350
- Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly 355 360 365
- Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu 370 380
- Gly Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly 385 390 395 400
- Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu 405 410 415
- His Arg Asn Leu Leu Lys Arg Leu Glu Glu Glu Lys Leu Trp
 420 425 430
- Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
 435 440 445
- Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser 450 455 460
- Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg 465 470 475 480
- Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg 485 490 495
- Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys 500 505 510
- Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu

Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys 530 540

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg 545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly 565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 635 635

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp 725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835 840

<210> 2737

<211> 2508

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2737

atgaatteeg aggegatget teegetettt gaacecaaag geegggteet eetggtggae 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420 atcctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggaggtg 780 gacctcgccc aggggcgga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840

gagttcggca	gcctcctcca	cgagttcggc	ctcctggagg	ccccgccc	cctggaggag	900
gccccctggc	ccccgccgga	aggggccttc	gtgggcttcg	tcctctcccg	ccccgagccc	960
atgtgggcgg	agcttaaagc	cctggccgcc	tgcaggggcg	gccgcgtgca	ccgggcagca	1020
gaccccttgg	cggggctaaa	ggacctcaag	gaggtccggg	gcctcctcgc	caaggacctc	1080
gccgtcttgg	cctcgaggga	ggggctagac	ctcgtgcccg	gggacgaccc	catgctcctc	1140
gcctacctcc	tgggcccctc	gaacaccacc	cccgaggggg	tggcgcggcg	ctacgggggg	1200
gagtggacgg	aggacgccgc	ccaccgggcc	ctcctctcgg	agaggctcca	tcggaacctc	1260
cttaagcgcc	tcgaggggga	ggagaagctc	gtttggctct	accacgaggt	ggaaaagccc	1320
ctctcccggg	tcctggccca	tatggaggcc	accggggtac	ggctggacgt	ggcctacctt	1380
caggcccttt	ccctggagct	tgcggaggag	atccgccgcc	tcgaggagga	ggtcttccgc	1440
ttggcgggcc	accccttcaa	cctcaactcc	cgggaccagc	tggaaagggt	gctctttgac	1500
gagcttaggc	ttcccgcctt	gaagaagacg	aagaagacag	gcaagcgctc	caccagcgcc	1560
gcggtgctgg	aggccctacg [,]	ggaggcccac	cccatcgtgg	agaagatcct	ccagcaccgg	1620
gagctcacca	agctcaagaa	cacctacgtg	gaccccctcc	caagcctcgt	ccacccgagg	1680
acgggccgcc	tccacacccg	cttcaaccag	acggccacgg	ccacggggag	gcttagtagc	1740
tccgacccca	acctgcagaa	catccccgtc	cgcaccccct	tgggccagag	gatccgccgg	1800
gccttcgtgg	ccgaggcggg	ttgggcgttg	gtggccctgg	actatagcca	gatagagctc	1860
cgcgtcctcg	cccacctctc	cggggacgaa	aacctgatca	gggtcttcca	ggagggaag	1920
gacatccaca	cccagaccgc	aagctggatg	ttcggcgtcc	ccccggaggc	cgtggacccc	1980
ctgatgcgcc	gggcggccaa	gacggtgaac	ttcggcgtcc	tctacggcat	gtccgcccat	2040
aggctctccc	aggagcttgc	catcccctac	gaggaggcgg	tggcctttat	agagcgctac	2100
ttccaaagct	tccccaaggt	gcgggcctgg	atagaaaaga	ccctggagga	ggggaggaag	2160
cggggctacg	tggaaaccct	cttcggaaga	aggcgctacg	tgcccgacct	caacgcccgg	2220
gtgaagagcg	tcagggaggc	cgcggagcgc	atggccttca	acatgcccgt	ccagggcacc	2280
gccgccgacc	tcatgaagct	cgccatggtg	aagctcttcc	cccgcctccg	ggagatgggg	2340
gcccgcatgc	tcctccaggt	cgccaacgag	ctcctcctgg	aggcccccca	agcgcgggcc	2400
gaggaggtgg	cggctttggc	caaggaggcc	atggagaagg	cctatcccct	cgccgtgccc	2460
ctggaggtgg	aggtggggat	gggggaggac	tggctttccg	ccaagggt		2508

<210> 2738

<211> 836

<212> PRT

<220>

<223> Synthetic

<400> 2738

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205

Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Val	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser

Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg 465 470 Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg 545 550 Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly 565 570 575 Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 580 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 595 600 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gin Glu Gly Lys 625 630 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 680 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys

705					710					715					720	
Arg	Gly	Tyr	Val	Glu 725	Thr	Leu	Phe	Gly	Arg 730	Arg	Arg	Tyr	Val	Pro 735	Asp	
Leu	Asn	Ala	Arg 740	Val	Lys	Ser	Val	Arg 745	Glu	Ala	Ala	Glu	Arg 750	Met	Ala	
Phe	Asn	Met 755	Pro	Val	Gln	Gly	Thr 760	Ala	Ala	Asp	Leu	Met 765	Lys	Leu	Ala	

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly 835

<210> 2739

<211> 2508

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2739

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccg accccgagg acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360

gcggacgacg	ttctcgccac	cctggccaag	aaggcggaaa	aggaggggta	cgaggtgcgc	420
atcctcaccg	ccgaccgcga	cctctaccaa	ctcgtctccg	accgcgtcgc	cgtcctccac	480
cccgagggcc	acctcatcac	cccggagtgg	ctttgggaga	agtacggcct	caggccggag	540
cagtgggtgg	acttccgcgc	cctcgtgggg	gacccctccg	acaacctccc	cggggtcaag	600
ggcatcgggg	agaagaccgc	cctcaagctc	ctcaaggagt	ggggaagcct	ggaaaacctc	660
ctcaagaacc	tggaccgggt	aaagccagaa	aacgtccggg	agaagatcaa	ggcccacctg	720
gaagacctca	ggctctcctt	ggagctctcc	cgggtgcgca	ccgacctccc	cctggaggtg	780
gacctcgccc	aggggcggga	gcccgaccgg	gaggggctta	gggccttcct	ggagaggctg	840
gagttcggca	gcctcctcca	cgagttcggc	ctcctggagg	ccccgccc	cctggaggag	900
gccccctggc	ccccgccgga	aggggccttc	gtgggcttcg	tcctctcccg	ccccgagccc	960
atgtgggcgg	agcttaaagc	cctggccgcc	tgcaggggcg	gccgcgtgca	ccgggcagca	1020
gaccccttgg	cggggctaaa	ggacctcaag	gaggtccggg	gcctcctcgc	caaggacctc	1080
gccgtcttgg	cctcgaggga	ggggctagac	ctcgtgcccg	gggacgaccc	catgctcctc	1140
gcctacctcc	tgggcccctc	gaacaccacc	cccgaggggg	tggcgcggcg	ctacgggggg	1200
gagtggacgg	aggacgccgc	ccaccgggcc	ctcctctcgg	agaggctcca	tcggaacctc	1260
cttaagcgcc	tcgagggggt	ggagaagctc	ctttggctct	accacgaggt	ggaaaagccc	1320
ctctcccggg	tcctggccca	tatggaggcc	accggggtac	ggctggacgt	ggcctacctt	1380
caggcccttt	ccctggagct	tgcggaggag	atccgccgcc	tcgaggagga	ggtcttccgc	1440
ttggcgggcc	accccttcaa	cctcaactcc	cgggaccagc	tggaaagggt	gctctttgac	1500
gagcttaggc	ttcccgcctt	gaagaagacg	aagaagacag	gcaagcgctc	caccagcgcc	1560
gcggtgctgg	aggccctacg	ggaggcccac	cccatcgtgg	agaagatcct	ccagcaccgg	1620
gagctcacca	agctcaagaa	cacctacgtg	gaccccctcc	caagcctcgt	ccacccgagg	1680
acgggccgcc	tccacacccg	cttcaaccag	acggccacgg	ccacggggag	gcttagtagc	1740
tccgacccca	acctgcagaa	catccccgtc	cgcaccccct	tgggccagag	gatccgccgg	1800
gccttcgtgg	ccgaggcggg	ttgggcgttg	gtggccctgg	actatagcca	gatagagctc	1860
cgcgtcctcg	cccacctctc	cggggacgaa	aacctgatca	gggtcttcca	ggaggggaag	1920
gacatccaca	cccagaccgc	aagctggatg	ttcggcgtcc	ccccggaggc	cgtggacccc	1980
ctgatgcgcc	gggcggccaa	gacggtgaac	ttcggcgtcc	tctacggcat	gtccgcccat	2040
aggctctccc	aggagcttgc	catcccctac	gaggaggcgg	tggcctttat	agagcgctac	2100
ttccaaagct	tccccaaggt	gcgggcctgg	atagaaaaga	ccctggagga	ggggaggaag	2160
cggggctacg	tggaaaccct	cttcggaaga	aggcgctacg	tgcccgacct	caacgcccgg	2220

gtgaagagg teagggagge egeggagege atggeettea acatgeeegt ceagggeace 2280
geegeegace teatgaaget egecatggtg aagetettee eeegeeteeg ggagatgggg 2340
geeegeatge teeteeaggt egecaacgag eteeteetgg aggeeeeea agegegggee 2400
gaggaggtgg eggetttgge eaaggaggee atggagaagg eetateeeet egeegtgeee 2460
etggaggtgg aggtgggat ggggaggae tggettteeg eeaagggt 2508

<210> 2740

<211> 836

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2740

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

145	arg	Asp	Leu	Tyr	150	Leu	Val	Ser	Asp	Arg 155	Val	Ala	Val	Leu	His 160
Pro	Glu	Gly	His	Leu 165	Ile	Thr	Pro	Glu	Trp 170	Leu	Trp	Glu	Lys	Tyr 175	Gly
Leu	Arg	Pro	Glu 180	Gln	Trp	Val	Asp	Phe 185	Arg	Ala	Leu	Val	Gly 190	Asp	Pro
Ser	Asp	Asn 195	Leu	Pro	Gly	Val	Lys 200	Gly	Ile	Gly	Glu	Lys 205	Thr	Ala	Leu
Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
	370		Val			375					380				
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400

410 His Arg Asn Leu Leu Lys Arg Leu Glu Gly Val Glu Lys Leu Leu Trp Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg 485 490 Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys 500 510 Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu 515 Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly 565 Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 580

Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu

405

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly 835

<210> 2741

<211> 2508

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2741 atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaqqac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420 atcctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacetca ggeteteett ggagetetee egggtgegea eegaceteee eetggaggtg 780 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 gagttcggca gcctcctcca cgagttcggc ctcctggagg cccccgcccc cctggaggag 900 gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960 atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020 gacccettgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 gcctacctcc tgggcccctc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg 1200 gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1260 cttaagcgaa acgaggggaa ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320 eteteeeggg teetggeeca tatggaggee accggggtae ggetggaegt ggeetaeett 1380 caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440 ttggcgggcc accecttcaa cetcaactee egggaceage tggaaagggt getetttgae 1500 gagettagge ttecegeett gaagaagaeg aagaagaeag geaagegete caccagegee 1560 geggtgetgg aggecetacg ggaggeeeac cecategtgg agaagateet ceageacegg 1620 gageteacea ageteaagaa cacetaegtg gaceceetee caageetegt ecaceegagg 1680 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740 tecgaececa acetgeagaa cateceegte egeaeceeet tgggeeagag gateegeegg 1800

gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860 cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag 1920 gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccggaggc cgtggacccc 1980 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat 2040 aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae 2100 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220 gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340 gcccgcatgc tcctccaggt cgccaacgag ctcctcctgg aggcccccca agcgcgggcc 2400 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggt 2508

<210> 2742

<211> 836

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2742

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro

- Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
 100 105 110
- Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125
- Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135
- Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160
- Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
 165 170 175
- Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190
- Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205
- Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 215 220
- Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu 225 230 235 235
- Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu 245 250 255
- Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly 260 265 270
- Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu 275 280 285
- Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro 290 295 300
- Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro 305 310 315 320
- Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val 325 330 335

нıs	Arg	Ala	340	Asp	Pro	Leu	Ala	G1y 345		Lys	Asp	Leu	Lys 350	Glu	Va.
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Let
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gl ₃ 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Asn	Glu 425	Gly	Lys	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arc 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Lys	Lys	Thr 510	Lys	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 630 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly

<210> 2743 <211> 2508 <212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2743 atgaatteeg aggegatget teegetettt gaaceeaaag geegggteet eetggtggae 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggeet acaaggeggg gagggeeeeg acceeegagg aetteeeeeg geagetegee 300 ctcatcaagg agetggtgga ceteetgggg tttaceegee tegaggteee eggetaegag 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420 atceteaceg eegacegega eetetaceaa etegteteeg acegegtege egteeteeae 480 eccgagggee aceteateae eccggagtgg etttgggaga agtaeggeet eaggeeggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacetea ggeteteett ggagetetee egggtgegea eegaceteee eetggaggtg 780 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 gagttcggca gcctcctcca cgagttcggc ctcctggagg cccccgcccc cctggaggag 900 gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960 atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 gcctacctcc tgggcccctc gaacaccacc cccgaggggg tggcgcggcg ctacggggg 1200 gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1260 cttaagcgct tcgagggga ggagaagctc ctttgcctct accacgaggt ggaaaagccc 1320

ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt 1380 caggecettt eeetggaget tgeggaggag ateegeegee tegaggagga ggtetteege 1440 ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500 gagettagge ttecegeett gaagaagaeg aagaagaeag geaagegete caceagegee 1560 geggtgetgg aggeectaeg ggaggeecae cecategtgg agaagateet ceageaeegg 1620 gageteacea ageteaagaa eacetaegtg gaeeeeetee eaageetegt eeaceegagg 1680 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740 tecgacecca acetgeagaa cateceegte egeaceceet tgggeeagag gateegeegg 1800 gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860 cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag 1920 gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccggaggc cgtggacccc 1980 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat 2040 aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae 2100 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220 gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340 gcccgcatgc tcctccaggt cgccaacgag ctcctcctgg aggcccccca agcgcgggcc 2400 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggt 2508

<210> 2744

<211> 836

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2744

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

- Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60
- Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80
- Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95
- Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 105 110
- Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125
- Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140
- Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160
- Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly 165 170 175
- Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190
- Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205
- Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 215 220
- Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu 225 230 235 240
- Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu 245 250 255
- Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly 260 265 270

- Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu 275 280 Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro 295 Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val 330 His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Gly Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu Leu Lys Arg Phe Glu Glu Glu Lys Leu Leu Cys Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met 435 Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser 450 460 Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
- Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys 500 505 510

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg

465

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu 515 520 525

490

Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg 545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly 565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp 725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu

770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly 835

<210> 2745

<211> 2508

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2745

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccq ccacqaqqcc 240 tacgaggeet acaaggeggg gagggeeeg acceegagg actteeeeg geagetegee 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacqaq 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggagggta cgaggtgcgc 420 atcctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccgqaq 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cqqqqtcaaq 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacetca ggeteteett ggagetetee egggtgegea eegaceteee eetggaggtg 780 gacctcgccc aggggggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840

gagttcggca	gcctcctcca	cgagttcggc	ctcctggagg	ccccgccc	cctggaggag	900
gccccctggc	ccccgccgga	aggggccttc	gtgggcttcg	tcctctcccg	ccccgagccc	960
atgtgggcgg	agcttaaagc	cctggccgcc	tgcaggggcg	gccgcgtgca	ccgggcagca	1020
gaccccttgg	cggggctaaa	ggacctcaag	gaggtccggg	gcctcctcgc	caaggacctc	1080
gccgtcttgg	cctcgaggga	ggggctagac	ctcgtgcccg	gggacgaccc	catgctcctc	1140
gcctacctcc	tgggcccctc	gaacaccacc	cccgaggggg	tggcgcggcg	ctacgggggg	1200
gagtggacgg	aggacgccgc	ccaccgggcc	ctcctctcgg	agaggctcca	tcggaacctc	1260
cttaagcgcc	tcgaggggga	ggagaagctc	ctttggctct	accacgaggt	ggaaaagccc	1320
ctctcccggg	tcctggccca	tatggaggcc	accggggtac	ggctggacgt	ggcctacctt	1380
caggcccttt	ccctggagct	tgcggaggag	atccgccgcc	tcgaggagga	ggtcttccgc	1440
ttggcgggcc	accccttcaa	cctcaactcc	cgggaccagc	tggaaagggt	gctctttgac	1500
gagcttaggc	ttcccttttt	gaagaagacg	aagaagacag	gcaagcgctc	caccagcgcc	1560
gcggtgctgg	aggccctacg	ggaggcccac	cccatcgtgg	agaagatcct	ccagcaccgg	1620
gagctcacca	agctcaagaa	cacctacgtg	gaccccctcc	caagcctcgt	ccacccgagg	1680
acgggccgcc	tccacacccg	cttcaaccag	acggccacgg	ccacggggag	gcttagtagc	1740
tccgacccca	acctgcagaa	catccccgtc	cgcaccccct	tgggccagag	gatccgccgg	1800
gccttcgtgg	ccgaggcggg	ttgggcgttg	gtggccctgg	actatagcca	gatagagctc	1860
cgcgtcctcg	cccacctctc	cggggacgaa	aacctgatca	gggtcttcca	ggaggggaag	1920
gacatccaca	cccagaccgc	aagctggatg	ttcggcgtcc	ccccggaggc	cgtggacccc	1980
ctgatgcgcc	gggcggccaa	gacggtgaac	ttcggcgtcc	tctacggcat	gtccgcccat	2040
aggctctccc	aggagcttgc	catcccctac	gaggaggcgg	tggcctttat	agagcgctac	2100
ttccaaagct	tccccaaggt	gcgggcctgg	atagaaaaga	ccctggagga	ggggaggaag	2160
cggggctacg	tggaaaccct	cttcggaaga	aggcgctacg	tgcccgacct	caacgcccgg	2220
gtgaagagcg	tcagggaggc	cgcggagcgc	atggccttca	acatgcccgt	ccagggcacc	2280
gccgccgacc	tcatgaagct	cgccatggtg	aagctcttcc	cccgcctccg	ggagatgggg	2340
gcccgcatgc	tcctccaggt	cgccaacgag	ctcctcctgg	aggcccccca	agcgcgggcc	2400
gaggaggtgg	cggctttggc	caaggaggcc	atggagaagg	cctatcccct	cgccgtgccc	2460
ctggaggtgg	aggtggggat	gggggaggac	tggctttccg	ccaagggt		2508

<210> 2746

<211> 836

<212> PRT

<220>

<223> Synthetic

<400> 2746

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val

5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205

Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser

ьец 465	GIU	Leu	Ala	GIU	470	ile	Arg	Arg	Leu	G1u 475	Glu	Glu	Val	Phe	Arc 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arc
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Phe	Leu	Lys	Lys	Thr 510	Lys	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arc 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
Pro	Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp
Ala	Leu 610	Val	Ala	Leu	Asp	Tyr 615	Ser	Gln	Ile	Glu	Leu 620	Arg	Val	Leu	Ala
His 625	Leu	Ser	Gly	Asp	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Lys 640
Asp	Ile	His	Thr	Gln 645	Thr	Ala	Ser	Trp	Met 650	Phe	Gly	Val	Pro	Pro 655	Glu
Ala	Val	Asp	Pro 660	Leu	Met	Arg	Arg	Ala 665	Ala	Lys	Thr	Val	Asn 670	Phe	Gly
Val	Leu	Tyr 675	Gly	Met	Ser	Ala	His 680	Arg	Leu	Ser	Gln	Glu 685	Leu	Ala	Ile
Pro	Tyr 690	Glu	Glu	Ala	Val	Ala 695	Phe	Ile	Glu	Arg	Tyr 700	Phe	Gln	Ser	Phe
Pro	Lys	Val	Arg	Ala	Trp	Ile	Glu	Lys	Thr	Leu	Glu	Glu	Gly	Arg	Lys

705 710	715	720
Arg Gly Tyr Val Glu Thr Leu Phe 725	Gly Arg Arg Arg Tyr Val Pro 730 735	Asp
Leu Asn Ala Arg Val Lys Ser Val 740	Arg Glu Ala Ala Glu Arg Met 745 750	Ala
Phe Asn Met Pro Val Gln Gly Thr 755 760	Ala Ala Asp Leu Met Lys Leu 765	Ala
Met Val Lys Leu Phe Pro Arg Leu 770 775	Arg Glu Met Gly Ala Arg Met 780	Leu
Leu Gln Val Ala Asn Glu Leu Leu 785 790	Leu Glu Ala Pro Gln Ala Arg 795	Ala 800
Glu Glu Val Ala Ala Leu Ala Lys 805	Glu Ala Met Glu Lys Ala Tyr 810 815	Pro
Leu Ala Val Pro Leu Glu Val Glu 820	Val Gly Met Gly Glu Asp Trp 825 830	Leu
Ser Ala Lys Gly 835		
<210> 2747		
<211> 2508		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Synthetic		
<400> 2747 atgaattccg aggcgatgct tccgctcttt	gaacccaaag gccgggtcct cctgg	tggac 60
ggccaccacc tggcctaccg caccttcttc	gccctgaagg gcctcaccac gagcc	ggggc 120
gaaccggtgc aggcggtcta cggcttcgcc	aagagcctcc tcaaggccct gaagg	aggac 180
gggtacaagg ccgtcttcgt ggtctttgac	gccaaggccc cctccttccg ccacg	aggcc 240
tacgaggcct acaaggcggg gagggccccg	accccgagg acttccccg gcagc	tcgcc 300

360

ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag

geggaegaeg ttetegeeae eetggeeaag aaggeggaaa aggaggggta egaggtgege 420 atecteaceg cegacegega ectetaceaa etegteteeg acegegtege egtectecae 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacetca ggeteteett ggagetetee egggtgegea eegaceteee eetggaggtg 780 gacctegece aggggeggga gecegacegg gaggggetta gggeetteet ggagaggetq 840 gagtteggea geeteeteea egagttegge eteetggagg eeceegeece eetggaggag 900 gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960 atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 gcctacctcc tgggcccctc gaacaccacc cccgaggggg tggcgcggcg ctacggggg 1200 gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1260 cttaagcgcc tcgagggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320 ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt 1380 caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440 ttggcgggcc acccettcaa cetcaactee egggaccage tggaaagggt getetttgae 1500 gagettagge ttecegtttt gaagaagaeg aagaagaeag geaagegete caceagegee 1560 geggtgetgg aggecetaeg ggaggeeeae eecategtgg agaagateet eeageaeegg 1620 gageteacea ageteaagaa eacetaegtg gaceceetee eaageetegt ecaceegagg 1680 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740 tecgaececa acetgeagaa cateceegte egeaeceeet tgggeeagag gateegeegg 1800 gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860 cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag 1920 gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccggaggc cgtggacccc 1980 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat 2040 aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae 2100 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220

gtgaagaggg tcagggaggc cgcggagcgc atggcettca acatgcccgt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatggtg aagctettee eccgceteeg ggagatgggg 2340
gcccgcatge tcetecaggt egccaacgag etecteetgg aggeeeceea agegegggee 2400
gaggaggtgg eggetttgge eaaggagge atggagaagg eetateeeet egcegtgeee 2460
etggaggtgg aggtgggat gggggaggae tggettteeg eeaagggt 2508

<210> 2748

<211> 836

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2748

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135

145	ALG	Asp	Leu	TYL	150	ьеи	vai	Ser	Asp	155	vai	АІА	vai	Leu	160
Pro	Glu	Gly	His	Leu 165	Ile	Thr	Pro	Glu	Trp 170	Leu	Trp	Glu	Lys	Tyr 175	Gly
Leu	Arg	Pro	Glu 180	Gln	Trp	Val	Asp	Phe 185	Arg	Ala	Leu	Val	Gly 190	Asp	Pro
Ser	Asp	Asn 195	Leu	Pro	Gly	Val	Lys 200	Gly	Ile	Gly	Glu	Lys 205	Thr	Ala	Leu
Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
			Arg	245					250					255	
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
	290		Leu			295					300			-	
305			Gly		310					315		-			320
			Glu	325					330					335	
			Ala 340					345					350		
		355	Leu				360					365			
	370		Val			375					380				
385	ETO	ser	Asn	Inr	390	PTO	GIU	стХ	val	A1a 395	Arg	arg	Tyr	GIY	Gly 400

- Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu 405 410 415
- His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
 420 425 430
- Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met 435 440 445
- Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser 450 460
- Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg 465 470 475 480
- Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
 485 490 495
- Val Leu Phe Asp Glu Leu Arg Leu Pro Val Leu Lys Lys Thr Lys Lys 500 505 510
- Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu 515 520 525
- Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys 530 535 540
- Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg 545 550 555 560
- Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly 565 570 575
- Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 580 585 590
- Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 595 600 605
- Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 615 620
- His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 635 635
- Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp 725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly 835

<210> 2749

<211> 2508

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2749 atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggeet acaaggeggg gagggeeeeg acceeegagg actteeeeeg geagetegee 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420 atecteaceg cegacegega cetetaceaa etegteteeg acegegtege egtectecae 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacetca ggeteteett ggagetetee egggtgegea eegaceteee eetggaggtg 780 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 gagtteggea geeteeteea egagttegge eteetggagg eeceegeece eetggaggag 900 gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960 atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 gcctacctcc tgggcccctc gaacaccacc cccgaggggg tggcgcggcg ctacggggg 1200 gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1260 cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320 ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt 1380 caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440 ttggcgggcc accecttcaa ceteaactee egggaceage tggaaagggt getetttgae 1500 gagettagge tteccagttt gaagaagaeg aagaagaeag geaagegete caccagegee 1560 gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg 1620 gageteacea ageteaagaa cacetaegtg gaceceetee caageetegt ecaceegagg 1680 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740 teegaeeeea aeetgeagaa cateeeegte egeaeeeeet tgggeeagag gateegeegg 1800

gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860 cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag 1920 gacatecaea eccagacege aagetggatg tteggegtee eeceggagge egtggacece 1980 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgccat 2040 aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae 2100 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220 gtgaagageg teagggagge egeggagege atggeettea acatgeeegt eeagggeace 2280 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340 gcccgcatgc tcctccaggt cgccaacgag ctcctcctgg aggcccccca agcgcgggcc 2400 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggt 2508

<210> 2750

<211> 836

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2750

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro

- Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 105 Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly 165 Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 190 Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu 245 Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
- Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro 305 310 315 320

Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro

295

Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val 325 330 335

His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val 340 Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly 360 Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Gly Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly 390 Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Arg Leu Pro Ser Leu Lys Lys Thr Lys Lys 500 Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu 515 525 Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys 530 Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg 545 560 Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr

590

585

580

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 630 635 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu

Ser Ala Lys Gly

<210> 2751
<211> 2508
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2751 atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggeet acaaggeggg gagggeeeg acceeegagg actteeeeg geagetegee 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 geggaegaeg ttetegeeae eetggeeaag aaggeggaaa aggaggggta egaggtgege 420 atcctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacetea ggeteteett ggagetetee egggtgegea eegaceteee eetggaggtg 780 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 gagttcggca gcctcctcca cgagttcggc ctcctggagg cccccgcccc cctggaggag 900 gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960 atgtgggcgg agettaaage eetggeegee tgeaggggeg geegegtgea eegggeagea 1020 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 gcctacctcc tgggcccctc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg 1200 gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1260 cttaagcgcc tcgagggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320

eteteceggg teetggeeca tatggaggee aceggggtae ggetggaegt ggeetaeett 1380 caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440 ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500 gagettagge ttecegeett gaagaagaeg aagaagaeag geaagegete caceggtgee 1560 gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg 1620 gageteacca ageteaagaa cacetaegtg gaceceetee caageetegt ecaceegagg 1680 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740 tecgacecca acetgeagaa cateceegte egeaceceet tgggeeagag gateegeegg 1800 gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860 egegteeteg eccacetete eggggaegaa aacetgatea gggtetteea qqaqqqaaq 1920 gacatecaca eccagacege aagetggatg tteggegtee eeeeggagge egtggacece 1980 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat 2040 aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae 2100 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220 gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340 geoegeatge teetecaggt egecaacgag eteeteetgg aggeoececa agegegggee 2400 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggt 2508

<210> 2752

<211> 836

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2752

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu

Lys	Gly	Leu	Thr	Thr	Ser	Arg	${ t Gly}$	Glu	Pro	Val	${ t Gln}$	Ala	Val	Tyr	Gly
		35					40					45			

- Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60
- Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80
- Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95
- Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
 100 105 110
- Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125
- Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140
- Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160
- Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly 165 170 175
- Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190
- Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205
- Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 220
- Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu 225 230 235 240
- Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu 245 250 255
- Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly 260 265 270

Leu	Arg	A1a 275	Pne	Leu	Glu	Arg	Leu 280	GIu	Phe	GLY	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
	Tyr	435					440					445			
	Ala 450					455					460				
465	Glu				470					475					480
	Ala			485					490					495	
	Leu		500					505					510		_
Thr	Gly	Lys 515	Arg	Ser	Thr	Gly	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu

Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
_															

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg 545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly 565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 635 635

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp 725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu

770	775	780
, , ,	, , ,	/00

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly 835

<210> 2753

<211> 2508

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2753

atgaatteeg aggegatget teegetettt gaacceaaag geegggteet eetggtggae 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggeet acaaggeggg gagggeeeeg acceeegagg actteeeeeg geagetegee 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420 atcctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacetea ggeteteett ggagetetee egggtgegea eegaceteee eetggaggtg 780 gacctcgccc aggggcgga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840

gagttcggca	gcctcctcca	cgagttcggc	ctcctggagg	ccccgccc	cctggaggag	900
gccccctggc	ccccgccgga	aggggccttc	gtgggcttcg	tcctctcccg	ccccgagccc	960
atgtgggcgg	agcttaaagc	cctggccgcc	tgcaggggcg	gccgcgtgca	ccgggcagca	1020
gaccccttgg	cggggctaaa	ggacctcaag	gaggtccggg	gcctcctcgc	caaggacctc	1080
gccgtcttgg	cctcgaggga	ggggctagac	ctcgtgcccg	gggacgaccc	catgctcctc	1140
gcctacctcc	tgggcccctc	gaacaccacc	cccgaggggg	tggcgcggcg	ctacgggggg	1200
gagtggacgg	aggacgccgc	ccaccgggcc	ctcctctcgg	agaggctcca	tcggaacctc	1260
cttaagcgcc	tcgaggggga	ggagaagctc	ctttggctct	accacgaggt	ggaaaagccc	1320
ctctcccggg	tcctggccca	tatggaggcc	accggggtac	ggctggacgt	ggcctacctt	1380
caggcccttt	ccctggagct	tgcggaggag	atccgccgcc	tcgaggagga	ggtcttccgc	1440
ttggcgggcc	accccttcaa	cctcaactcc	cgggaccagc	tggaaagggt	gctctttgac	1500
gagcttaggc	ttcccgcctt	gaagaagacg	aagaagacag	gcaagcgctc	caccagctta	1560
gcggtgctgg	aggccctacg	ggaggcccac	cccatcgtgg	agaagatcct	ccagcaccgg	1620
gagctcacca	agctcaagaa	cacctacgtg	gaccccctcc	caagcctcgt	ccacccgagg	1680
acgggccgcc	tccacacccg	cttcaaccag	acggccacgg	ccacggggag	gcttagtagc	1740
tccgacccca	acctgcagaa	catccccgtc	cgcaccccct	tgggccagag	gatccgccgg	1800
gccttcgtgg	ccgaggcggg	ttgggcgttg	gtggccctgg	actatagcca	gatagagctc	1860
cgcgtcctcg	cccacctctc	cggggacgaa	aacctgatca	gggtcttcca	ggagggaag	1920
gacatccaca	cccagaccgc	aagctggatg	ttcggcgtcc	ccccggaggc	cgtggacccc	1980
ctgatgcgcc	gggcggccaa	gacggtgaac	ttcggcgtcc	tctacggcat	gtccgcccat	2040
aggctctccc	aggagcttgc	catcccctac	gaggaggcgg	tggcctttat	agagcgctac	2100
ttccaaagct	tccccaaggt	gcgggcctgg	atagaaaaga	ccctggagga	ggggaggaag	2160
cggggctacg	tggaaaccct	cttcggaaga	aggcgctacg	tgcccgacct	caacgcccgg	2220
gtgaagagcg	tcagggaggc	cgcggagcgc	atggccttca	acatgcccgt	ccagggcacc	2280
gccgccgacc	tcatgaagct	cgccatggtg	aagctcttcc	cccgcctccg	ggagatgggg	2340
gcccgcatgc	tcctccaggt	cgccaacgag	ctcctcctgg	aggcccccca	agcgcgggcc	2400
gaggaggtgg	cggctttggc	caaggaggcc	atggagaagg	cctatcccct	cgccgtgccc	2460
ctggaggtgg	aggtggggat	gggggaggac	tggctttccg	ccaagggt		2508

<210> 2754

<211> 836

<212> PRT

<220>

<223> Synthetic

<400> 2754

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205

Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser

465	GIU	Leu	АІА	Glu	470	ile	Arg	Arg	Leu	G1u 475		Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Lys	Lys	Thr 510	Lys	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Leu 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
Pro	Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp
Ala	Leu 610	Val	Ala	Leu	Asp	Tyr 615	Ser	Gln	Ile	Glu	Leu 620	Arg	Val	Leu	Ala
His 625	Leu	Ser	Gly	Asp	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Lys 640
Asp	Ile	His	Thr	Gln 645	Thr	Ala	Ser	Trp	Met 650	Phe	Gly	Val	Pro	Pro 655	Glu
Ala	Val	Asp	Pro 660	Leu	Met	Arg	Arg	Ala 665	Ala	Lys	Thr	Val	Asn 670	Phe	Gly
		675		Met			680					685			
	690			Ala		695					700				
Pro	Lys	Val	Arg	Ala	Trp	Ile	Glu	Lys	Thr	Leu	Glu	Glu	Gly	Arg	Lys

705	710	715	720
Arg Gly Tyr Val Glu 725	Thr Leu Phe Gly	Arg Arg Arg Tyr Val Pro	
Leu Asn Ala Arg Val 740	Lys Ser Val Arg 745	Glu Ala Ala Glu Arg Met 750	Ala
Phe Asn Met Pro Val 755	Gln Gly Thr Ala 760	Ala Asp Leu Met Lys Leu 765	Ala
Met Val Lys Leu Phe 770	Pro Arg Leu Arg 775	Glu Met Gly Ala Arg Met 780	Leu
Leu Gln Val Ala Asn 785	Glu Leu Leu Leu 790	Glu Ala Pro Gln Ala Arg 795	Ala 800
Glu Glu Val Ala Ala 805	Leu Ala Lys Glu	Ala Met Glu Lys Ala Tyr 810 815	
Leu Ala Val Pro Leu 820	Glu Val Glu Val 825	Gly Met Gly Glu Asp Trp 830	Leu
Ser Ala Lys Gly 835			
<210> 2755			
<211> 2508			
<212> DNA			
<213> Artificial Se	equence		
<220>			
<223> Synthetic			
<400> 2755 atgaattccg aggcgatgo	ct teegetettt gaa	acccaaag gccgggtcct cctg	gtggac 60
ggccaccacc tggcctacc	eg caccttette ged	cctgaagg gcctcaccac gagc	cggggc 120
gaaccggtgc aggcggtct	a eggettegee aag	gageetee teaaggeeet gaag	gaggac 180
gggtacaagg ccgtcttcg	gt ggtctttgac gco	caaggeee ceteetteeg eeac	gaggcc 240
tacgaggcct acaaggcgg	gg gagggccccg acc	cccgagg acttcccccg gcag	ctcgcc 300

ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag

360

gcggacgacg	ttctcgccac	cctggccaag	aaggcggaaa	aggaggggta	cgaggtgcgc	420
atcctcaccg	ccgaccgcga	cctctaccaa	ctcgtctccg	accgcgtcgc	cgtcctccac	480
cccgagggcc	acctcatcac	cccggagtgg	ctttgggaga	agtacggcct	caggccggag	540
cagtgggtgg	acttccgcgc	cctcgtgggg	gacccctccg	acaacctccc	cggggtcaag	600
ggcatcgggg	agaagaccgc	cctcaagctc	ctcaaggagt	ggggaagcct	ggaaaacctc	660
ctcaagaacc	tggaccgggt	aaagccagaa	aacgtccggg	agaagatcaa	ggcccacctg	720
gaagacctca	ggctctcctt	ggagctctcc	cgggtgcgca	ccgacctccc	cctggaggtg	780
gacctcgccc	aggggcggga	gcccgaccgg	gaggggctta	gggccttcct	ggagaggctg	840
gagttcggca	gcctcctcca	cgagttcggc	ctcctggagg	ccccgccc	cctggaggag	900
gccccctggc	ccccgccgga	aggggccttc	gtgggcttcg	tcctctcccg	ccccgagccc	960
atgtgggcgg	agcttaaagc	cctggccgcc	tgcaggggcg	gccgcgtgca	ccgggcagca	1020
gaccccttgg	cggggctaaa	ggacctcaag	gaggtccggg	gcctcctcgc	caaggacctc	1080
gccgtcttgg	cctcgaggga	ggggctagac	ctcgtgcccg	gggacgaccc	catgctcctc	1140
gcctacctcc	tgggcccctc	gaacaccacc	cccgaggggg	tggcgcggcg	ctacgggggg	1200
gagtggacgg	aggacgccgc	ccaccgggcc	ctcctctcgg	agaggctcca	tcggaacctc	1260
cttaagcgcc	tcgaggggga	ggagaagctc	ctttggctct	accacgaggt	ggaaaagccc	1320
ctctcccggg	tcctggccca	tatggaggcc	accggggtac	ggctggacgt	ggcctacctt	1380
caggcccttt	ccctggagct	tgcggaggag	atccgccgcc	tcgaggagga	ggtcttccgc	1440
ttggcgggcc	accccttcaa	cctcaactcc	cgggaccagc	tggaaagggt	gctctttgac	1500
gagcttaggc	ttcccgcctt	gaagaagacg	aagaagacag	gcaagcgctc	caccagccgt	1560
gcggtgctgg	aggccctacg	ggaggcccac	cccatcgtgg	agaagatcct	ccagcaccgg	1620
gagctcacca	agctcaagaa	cacctacgtg	gaccccctcc	caagcctcgt	ccacccgagg	1680
acgggccgcc	tccacacccg	cttcaaccag	acggccacgg	ccacggggag	gcttagtagc	1740
tccgacccca	acctgcagaa	catccccgtc	cgcaccccct	tgggccagag	gatccgccgg	1800
gccttcgtgg	ccgaggcggg	ttgggcgttg	gtggccctgg	actatagcca	gatagagctc	1860
cgcgtcctcg	cccacctctc	cggggacgaa	aacctgatca	gggtcttcca	ggagggaag	1920
gacatccaca	cccagaccgc	aagctggatg	ttcggcgtcc	ccccggaggc	cgtggacccc	1980
ctgatgcgcc	gggcggccaa	gacggtgaac	ttcggcgtcc	tctacggcat	gtccgcccat	2040
aggctctccc	aggagcttgc	catcccctac	gaggaggcgg	tggcctttat	agagcgctac	2100
ttccaaagct	tccccaaggt	gcgggcctgg	atagaaaaga	ccctggagga	ggggaggaag	2160
cggggctacg	tggaaaccct	cttcggaaga	aggcgctacg	tgcccgacct	caacgcccgg	2220

gtgaagaggg teagggagge egeggagege atggeettea acatgeeegt eeagggeace 2280 geegeegace teatgaaget egecatggtg aagetettee eeegeeteeg ggagatgggg 2340 geeegeatge teeteeaggt egecaacgag eteeteetgg aggeeeeca agegegggee 2400 gaggaggtgg eggetttgge eaaggaggee atggagaagg eetateeeet egeegtgeee 2460 etggaggtgg aggtggggat gggggaggae tggettteeg eeaagggt 2508

<210> 2756

<211> 836

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2756

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp 145	Arg	Asp	Leu	Tyr	Gln 150	Leu	Val	Ser	Asp	Arg 155	Val	Ala	Val	Leu	His 160
Pro	Glu	Gly	His	Leu 165	Ile	Thr	Pro	Glu	Trp 170	Leu	Trp	Glu	Lys	Tyr 175	Gly
Leu	Arg	Pro	Glu 180	Gln	Trp	Val	Asp	Phe 185	Arg	Ala	Leu	Val	Gly 190	Asp	Pro
Ser	Asp	Asn 195	Leu	Pro	Gly	Val	Lys 200	Gly	Ile	Gly	Glu	Lys 205	Thr	Ala	Leu
Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400

- Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
 405 410 415
- His Arg Asn Leu Leu Lys Arg Leu Glu Glu Glu Glu Lys Leu Leu Trp 420 425 430
- Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met 435 440 445
- Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser 450 460
- Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg 465 470 475 480
- Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
- Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys 500 505 510
- Thr Gly Lys Arg Ser Thr Ser Arg Ala Val Leu Glu Ala Leu Arg Glu 515 520 525
- Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys 530 540
- Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg 545 550 555 560
- Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
 565 570 575
- Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 580 590
- Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 595 600 605
- Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 615 620
- His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 630 635 640
- Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp 725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly 835

<210> 2757

<211> 2508

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2757 atgaatteeg aggegatget teegetettt gaacceaaag geegggteet eetggtggae 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggeet acaaggeggg gagggeeeeg acceeegagg actteeeeeg geagetegee 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggagggta cgaggtgcgc 420 atcctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720 gaagacetea ggeteteett ggagetetee egggtgegea eegaceteee eetggaggtg 780 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 gagttcggca gcctcctcca cgagttcggc ctcctggagg cccccgcccc cctggaggag 900 gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960 atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 gcctacctcc tgggcccctc gaacaccacc cccgagggg tggcgcggcg ctacggggg 1200 gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1260 cttaagcgcc tcgagggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320 ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt 1380 caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440 ttggcgggcc acccettcaa cetcaactee cgggaccage tggaaagggt getetttgae 1500 gagettagge tteecaagtt gaagaagaeg aagaagaeag geaagegete caccagegee 1560 gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg 1620 gageteacca ageteaagaa cacetaegtg gaceceetee caageetegt ecaceegagg 1680 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740 tecgaececa acetgeagaa cateceegte egeaececet tgggeeagag gateegeegg 1800

gccttcgtgg ccgaggcggg ttgggcgttg gtggccctqq actataqcca qataqaqctc 1860 cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag 1920 gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccggaggc cgtggacccc 1980 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat 2040 aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae 2100 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220 gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340 gcccgcatgc tcctccaggt cgccaacgag ctcctcctgg aggcccccca agcgcgggcc 2400 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggt 2508

<210> 2758

<211> 836

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2758

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro

- Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
 100 105 110
- Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125
- Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140
- Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160
- Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
 165 170 175
- Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190
- Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205
- Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 220
- Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu 225 230 235 240
- Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu 245 250 255
- Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly 260 265 270
- Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu 275 280 285
- Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro 290 295 300
- Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro 305 310 315 320
- Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val 325 330 335

піз	Arg	АТА	340		Pro	Leu	АІа	345		гàз	Asp	Leu	Lys 350	Glu	Va.
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gl
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Let
Gly 385		Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gl ₃
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Let
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Tr
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Sei
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Lys	Leu	Lys	Lys	Thr 510	Lys	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 635 635

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp 725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly

<210> 2759 <211> 2508 <212> DNA <213> Artificial Sequence

<220>

<223> Synthetic

<400> 2759 atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac

ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac

gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc tacgaggeet acaaggeggg gagggeeeeg acceeegagg actteeeeeg geagetegee

ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggagggta cgaggtgcgc

atcctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag

ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg gaagacetea ggeteteett ggagetetee egggtgegea eegaceteee eetggaggtg

gagtteggea geeteeteea egagttegge eteetggagg eeeeegeeee eetggaggag gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc

atgtgggcgg agettaaage eetggeegee tgeaggggeg geegegtgea eegggeagea gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc

gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc

gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc

gcctacctcc tgggcccctc gaacaccacc cccgaggggg tggcgcggcg ctacggggg

60 120

180 240

> 300 360

420 480 540

600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660

> 720 780

gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840 900

960 1020

1080 1140

1260 cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320

1200

ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt 1380 caggecettt eeetggaget tgeggaggag ateegeegee tegaggagga ggtetteege 1440 ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500 gagettagge ttecegeett gaagaagaeg aagaagaeag geaagegete caccagegee 1560 gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg 1620 gageteacea ageteaagaa cacetaegtg gaceceetee caageetegt ecaceegagg 1680 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740 teegaceeca acetgeagaa cateecegte egeaceecet tgggeeagag gateegeegg 1800 gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860 cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag 1920 gacategeca eccagacege aagetggatg tteggegtee ecceggagge egtggaceee 1980 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat 2040 aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae 2100 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220 gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340 gcccgcatgc tcctccaggt cgccaacgag ctcctcctgg aggcccccca agcgcgggcc 2400 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggt 2508

<210> 2760

<211> 836

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2760

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu

- Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45
- Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60
- Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80
- Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95
- Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
- Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125
- Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140
- Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160
- Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
 165 170 175
- Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190
- Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205
- Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 215 220
- Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu 225 230 235 240
- Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu 245 250 255
- Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly 260 265 270

neu	ALG	275	PHE	Leu	GIU	Arg	280	GIU	Pne	GIY	ser	ьеи 285	Leu	HIS	GI
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Va]
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Va]
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Lys	Lys	Thr 510	Lys	Lys
Γhr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu

AIA	530	PIO	116	vai	GIU	535	116	Leu	GIII	nis	540	GIU	Leu	inr	rys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
Pro	Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp
Ala	Leu 610	Val	Ala	Leu	Asp	Tyr 615	Ser	Gln	Ile	Glu	Leu 620	Arg	Val	Leu	Ala
His 625	Leu	Ser	Gly	Asp	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Lys 640
Asp	Ile	Ala	Thr	Gln 645	Thr	Ala	Ser	Trp	Met 650	Phe	Gly	Val	Pro	Pro 655	Glu
Ala	Val	Asp	Pro 660	Leu	Met	Arg	Arg	Ala 665	Ala	Lys	Thr	Val	Asn 670	Phe	Gly
Val	Leu	Tyr 675	Gly	Met	Ser	Ala	His 680	Arg	Leu	Ser	Gln	Glu 685	Leu	Ala	Ile
Pro	Tyr 690	Glu	Glu	Ala	Val	Ala 695	Phe	Ile	Glu	Arg	Tyr 700	Phe	Gln	Ser	Phe
Pro 705	Lys	Val	Arg	Ala	Trp 710	Ile	Glu	Lys	Thr	Leu 715	Glu	Glu	Gly	Arg	Lys 720
Arg	Gly	Tyr	Val	Glu 725	Thr	Leu	Phe	Gly	Arg 730	Arg	Arg	Tyr	Val	Pro 735	Asp
			Arg 740					745					750		
		755	Pro				760					765			
Met	Val	Lys	Leu	Phe	Pro	Arg	Leu	Arg	Glu	Met	Gly	Ala	Arg	Met	Leu

770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly 835

<210> 2761

<211> 2508

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2761

atgaatteeg aggegatget teegetettt gaacceaaag geegggteet eetggtggae 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggeet acaaggeggg gagggeeeeg aceeeegagg actteeeeeg geagetegee 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420 atceteaceg cegacegega cetetaceaa etegteteeg acegegtege egteeteeae 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctq 720 gaagacetea ggeteteett ggagetetee egggtgegea eegaceteee eetqqaqqtq 780 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840

gagttcggca	gcctcctcca	cgagttcggc	ctcctggagg	ccccgcccc	cctggaggag	900
gccccctggc	ccccgccgga	aggggccttc	gtgggcttcg	tcctctcccg	ccccgagccc	960
atgtgggcgg	agcttaaagc	cctggccgcc	tgcaggggcg	gccgcgtgca	ccgggcagca	1020
gaccccttgg	cggggctaaa	ggacctcaag	gaggtccggg	gcctcctcgc	caaggacctc	1080
gccgtcttgg	cctcgaggga	ggggctagac	ctcgtgcccg	gggacgaccc	catgctcctc	1140
gcctacctcc	tgggcccctc	gaacaccacc	cccgaggggg	tggcgcggcg	ctacgggggg	1200
gagtggacgg	aggacgccgc	ccaccgggcc	ctcctctcgg	agaggctcca	tcggaacctc	1260
cttaagcgcc	tcgaggggga	ggagaagctc	ctttggctct	accacgaggt	ggaaaagccc	1320
ctctcccggg	tcctggccca	tatggaggcc	accggggtac	ggctggacgt	ggcctacctt	1380
caggcccttt	ccctggagct	tgcggaggag	atccgccgcc	tcgaggagga	ggtcttccgc	1440
ttggcgggcc	accccttcaa	cctcaactcc	cgggaccagc	tggaaagggt	gctctttgac	1500
gagcttaggc	ttcccgcctt	gaagaagccg	aagaagacag	gcaagcgctc	caccagcgcc	1560
gcggtgctgg	aggccctacg	ggaggcccac	cccatcgtgg	agaagatcct	ccagcaccgg	1620
gagctcacca	agctcaagaa	cacctacgtg	gaccccctcc	caagcctcgt	ccacccgagg	1680
acgggccgcc	tccacacccg	cttcaaccag	acggccacgg	ccacggggag	gcttagtagc	1740
tccgacccca	acctgcagaa	catccccgtc	cgcaccccct	tgggccagag	gatccgccgg	1800
gccttcgtgg	ccgaggcggg	ttgggcgttg	gtggccctgg	actatagcca	gatagagctc	1860
cgcgtcctcg	cccacctctc	cggggacgaa	aacctgatca	gggtcttcca	ggaggggaag	1920
gacatccaca	cccagaccgc	aagctggatg	ttcggcgtcc	ccccggaggc	cgtggacccc	1980
ctgatgcgcc	gggcggccaa	gacggtgaac	ttcggcgtcc	tctacggcat	gtccgcccat	2040
aggctctccc	aggagcttgc	catcccctac	gaggaggcgg	tggcctttat	agagcgctac	2100
ttccaaagct	tccccaaggt	gcgggcctgg	atagaaaaga	ccctggagga	ggggaggaag	2160
cggggctacg	tggaaaccct	cttcggaaga	aggcgctacg	tgcccgacct	caacgcccgg	2220
gtgaagagcg	tcagggaggc	cgcggagcgc	atggccttca	acatgcccgt	ccagggcacc	2280
gccgccgacc	tcatgaagct	cgccatggtg	aagctcttcc	cccgcctccg	ggagatgggg	2340
gcccgcatgc	tcctccaggt	cgccaacgag	ctcctcctgg	aggcccccca	agcgcgggcc	2400
gaggaggtgg	cggctttggc	caaggaggcc	atggagaagg	cctatcccct	cgccgtgccc	2460
ctggaggtgg	aggtggggat	gggggaggac	tggctttccg	ccaagggt		2508

<210> 2762

<211> 836

<212> PRT

<220>

<223> Synthetic

<400> 2762

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205

цув	210	ьeu	. цуѕ	GIU	Trp	215		Leu	GIU	Asn	220		ı Lys	Asn	Lei
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235		Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250		Val	Arg	Thr	Asp 255	
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270		Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285		His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
	370		Val			375					380				
385			Asn		390					395					400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
		435	Glu				440					445			
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser

465					470					475					480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Lys	Lys	Pro 510	Lys	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
Pro	Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp
Ala	Leu 610	Val	Ala	Leu	Asp	Tyr 615	Ser	Gln	Ile	Glu	Leu 620	Arg	Val	Leu	Ala
His 625	Leu	Ser	Gly	Asp	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Lys 640
Asp	Ile	His	Thr	Gln 645	Thr	Ala	Ser	Trp	Met 650	Phe	Gly	Val	Pro	Pro 655	Glu
Ala	Val	Asp	Pro 660	Leu	Met	Arg	Arg	Ala 665	Ala	Lys	Thr	Val	Asn 670	Phe	Gly

Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Val Phe Arg

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly 835

<210> 2763

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2763

atgaattccg aggcgatgct teegetett gaacccaaag geegggteet eetggtggae 60 ggccaccace tggeetaccg cacettette geeetgaagg geetcaccac gageegggge 120 gaaccggtge aggeggteta eggettegee aagageetee teaaggeeet gaaggaggae 180 gggtacaagg eegtcategt ggtetttgae geegaggeee eeteetteeg eeaegaggee 240 tacgaggeet acaaggegg gagggeeeeg acceegagg actteeceeg geagetegee 240 etcatcaagg agetggtga eeteetggg tttaceegee tegaggteee eggetacgag 360

gcggacgacg	ttctcgccac	cctggccaag	aaggcggaaa	aggaggggta	cgaggtgcgc	420
atcctcaccg	ccgaccgcga	cctctaccaa	ctcgtctccg	accgcgtcgc	cgtcctccac	480
cccgagggcc	acctcatcac	cccggagtgg	ctttgggaga	agtacggcct	caggccggag	540
cagtgggtgg	acttccgcgc	cctcgtgggg	gacccctccg	acaacctccc	cggggtcaag	600
ggcatcgggg	agaagaccgc	cctcaagctc	ctcaaggagt	ggggaagcct	ggaaaacctc	660
ctcaagaacc	tggaccgggt	aaagccagaa	aacgtccggg	agaagatcaa	ggcccacctg	720
gaagacctca	ggctctcctt	ggagctctcc	cgggtgcgca	ccgacctccc	cctggaggtg	780
gacctcgccc	aggggcggga	gcccgaccgg	gaggggctta	gggccttcct	ggagaggctg	840
gagttcggca	gcctcctcca	cgagttcggc	ctcctggagg	ccccgcccc	cctggaggag	900
gccccctggc	ccccgccgga	aggggccttc	gtgggcttcg	tcctctcccg	ccccgagccc	960
atgtgggcgg	agcttaaagc	cctggccgcc	tgcaggggcg	gccgcgtgca	ccgggcagca	1020
gaccccttgg	cggggctaaa	ggacctcaag	gaggtccggg	gcctcctcgc	caaggacctc	1080
gccgtcttgg	cctcgaggga	ggggctagac	ctcgtgcccg	gggacgaccc	catgctcctc	1140
gcctacctcc	tgggcccctc	gaacaccacc	cccgaggggg	tggcgcggcg	ctacgggggg	1200
gagtggacgg	aggacgccgc	ccaccgggcc	ctcctctcgg	agaggctcca	tcggaacctc	1260
cttaagcgcc	tcgagggga	ggagaagctc	ctttggctct	accacgaggt	ggaaaagccc	1320
ctctcccggg	tcctggccca	tatggaggcc	accggggtac	ggctggacgt	ggcctacctt	1380
caggcccttt	ccctggagct	tgcggaggag	atccgccgcc	tcgaggagga	ggtcttccgc	1440
ttggcgggcc	accccttcaa	cctcaactcc	cgggaccagc	tggaaagggt	gctctttgac	1500
gagcttaggc	ttcccgcctt	gaagaagacg	aagaagacag	gcaagcgctc	caccagcgcc	1560
gcggtgctgg	aggccctacg	ggaggcccac	cccatcgtgg	agaagatcct	ccagcaccgg	1620
gagctcacca	agctcaagaa	cacctacgtg	gaccccctcc	caagcctcgt	ccacccgagg	1680
acgggccgcc	tccacacccg	cttcaaccag	acggccacgg	ccacggggag	gcttagtagc	1740
tccgacccca	acctgcagaa	catccccgtc	cgcaccccct	tgggccagag	gatccgccgg	1800
gccttcgtgg	ccgaggcggg	ttgggcgttg	gtggccctgg	actatagcca	gatagagctc	1860
cgcgtcctcg	cccacctctc	cggggacgaa	aacctgatca	gggtcttcca	ggagggaag	1920
gacatccaca	cccagaccgc	aagctggatg	ttcggcgtcc	ccccggaggc	cgtggacccc	1980
ctgatgcgcc	gggcggccaa	gacggtgaac	ttcggcgtcc	tctacggcat	gtccgcccat	2040
aggctctccc	aggagcttgc	catcccctac	gaggaggcgg	tggcctttat	agagcgctac	2100
ttccaaagct	tccccaaggt	gcgggcctgg	atagaaaaga	ccctggagga	ggggaggaag	2160
cggggctacg	tggaaaccct	cttcggaaga	aggcgctacg	tgcccgacct	caacgcccgg	2220

gtgaagaggg tcagggaggc cgcggagcgc atggcettca acatgcccgt ccagggcacc 2280 gccgccgacc tcatgaagct cgccatggtg aagctettee ecegeeteeg ggagatgggg 2340 gecegeatge teetecaggt egecaacgag eteeteetgg aggeeeeca agegegggee 2400 gaggaggtgg eggetttgge caaggaggee atggagaagg eetateeeet egeegtgeee 2460 etggaggtgg aggtgggat gggggaggae tggettteeg ecaagggtea ecaceace 2520 caccac

<210> 2764

<211> 2514

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2764

atgaattccc tgcccctctt tgagcccaag ggccgggtgc ttctggtgga cggccaccac 60 ctggcctacc gtaccttttt tgccctgaag ggcctcacca ccagccgcgg ggagccggtc 120 caggcggtgt acgggtttgc caagagcctt ttgaaggcgc taagggaaga cggggatgtg 180 gtgatcgtgg tgtttgacgc caaggccccc tccttccgcc accagaccta cgaggcctac 240 aaggegggge gggeteeeac eeeegaggae ttteeeegge agettgeeet tateaaggag 300 atggtggacc ttttgggctt tacccgcctc gaggtgccgg gctttgaagc ggatgacgtc 360 ctggctaccc tggccaagaa ggcggaaaag gaaggctacg aagtgcgcat cctcaccgcg 420 gaccgggacc tttaccagct tctttcggag cgaatctcca tccttcaccc ggagggttac 480 ctgatcaccc cggagtggct ttgggagaag tatgggctta agccttccca gtgggtggac 540 taccgggcct tggccgggga cccttccgac aacatccccg gcgtgaaggg catcggggag 600 aagacggcgg ccaagctgat ccgggagtgg ggaagcctgg aaaaccttct taagcacctg 660 gaacaggtga aacctgcctc cgtgcgggag aagatcctta gccacatgga ggacctcaag 720 ctatecetgg agetateceg ggtgeacaeg gaettgetee tteaggtgga ettegeeegg 780 cgccgggagc cggaccggga ggggcttaag gcctttttgg agaggctgga gttcqqaaqc 840 etectecacy agtteggeet gttggaaage ceggtggegg eggaggaage teeetggeeg 900 cccccgagg gagccttcgt ggggtacgtt ctttcccgcc ccgagcccat gtgggcggag 960 cttaacgcct tggccgccgc ctggggcggc cgcgtgcacc gggcagcaga ccccttggcg 1020

gggctaaagg	acctcaagga	ggtccggggc	ctcctcgcca	aggacctcgc	cgtcttggcc	1080
tcgagggagg	ggctagacct	cgtgcccggg	gacgacccca	tgctcctcgc	ctacctcctg	1140
ggcccctcga	acaccacccc	cgagggggtg	gcgcggcgct	acgggggga	gtggacggag	1200
gacgccgccc	accgggccct	cctctcggag	aggctccatc	ggaacctcct	taagcgcctc	1260
gagggggagg	agaagctcct	ttggctctac	cacgaggtgg	aaaagcccct	ctcccgggtc	1320
ctggcccata	tggaggccac	cggggtacgg	ctggacgtgg	cctaccttca	ggccctttcc	1380
ctggagcttg	cggaggagat	ccgccgcctc	gaggaggagg	tcttccgctt	ggcgggccac	1440
cccttcaacc	tcaactcccg	ggaccagctg	gaaagggtgc	tctttgacga	gcttaggctt	1500
cccgccttga	agaagacgaa	gaagacaggc	aagcgctcca	ccagcgccgc	ggtgctggag	1560
gccctacggg	aggcccaccc	catcgtggag	aagatcctcc	agcaccggga	gctcaccaag	1620
ctcaagaaca	cctacgtgga	cccctccca	agcctcgtcc	acccgaggac	gggccgcctc	1680
cacacccgct	tcaaccagac	ggccacggcc	acggggaggc	ttagtagctc	cgaccccaac	1740
ctgcagaaca	tccccgtccg	cacccccttg	ggccagagga	tccgccgggc	cttcgtggcc	1800
gaggcgggtt	gggcgttggt	ggccctggac	tatagccaga	tagagctccg	cgtcctcgcc	1860
cacctctccg	gggacgaaaa	cctgatcagg	gtcttccagg	aggggaagga	catccacacc	1920
cagaccgcaa	gctggatgtt	cggcgtcccc	ccggaggccg	tggaccccct	gatgcgccgg	1980
gcggccaaga	cggtgaactt	cggcgtcctc	tacggcatgt	ccgcccatag	gctctcccag	2040
gagcttgcca	tcccctacga	ggaggcggtg	gcctttatag	agcgctactt	ccaaagcttc	2100
cccaaggtgc	gggcctggat	agaaaagacc	ctggaggagg	ggaggaagcg	gggctacgtg	2160
gaaaccctct	tcggaagaag	gcgctacgtg	cccgacctca	acgcccgggt	gaagagcgtc	2220
agggaggccg	cggagcgcat	ggccttcaac	atgcccgtcc	agggcaccgc	cgccgacctc	2280
atgaagctcg	ccatggtgaa	gctcttcccc	cgcctccggg	agatgggggc	ccgcatgctc	2340
ctccaggtcg	ccaacgagct	cctcctggag	gcccccaag	cgcgggccga	ggaggtggcg	2400
gctttggcca	aggaggccat	ggagaaggcc	tatcccctcg	ccgtgcccct	ggaggtggag	2460
gtggggatgg	gggaggactg	gctttccgcc	aagggtcacc	accaccacca	ccac	2514

<210> 2765

<211> 2526

<212> DNA

<213> Artificial Sequence

<223> Synthetic

<400> 2765 atgaatteeg aggegatget teegetettt gaacceaaag geegggteet eetggtggae 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcatcgt ggtctttgac gccgaggccc cctccttccg ccacgaggcc 240 tacgaggeet acaaggeggg gagggeeeeg acceeegagg actteeeeeg geagetegee 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420 atecteaceg ecgacegega ectetaceaa etegteteeg acegegtege egteeteeae 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtatgggct taagccttcc 540 cagtgggtgg actaccgggc cttggccggg gacccttccg acaacatccc cggcgtgaag 600 ggcatcgggg agaagacggc ggccaagctg atccgggagt ggggaagcct ggaaaacctt 660 cttaagcacc tggaacaggt gaaacctgcc tccgtgcggg agaagatcct tagccacatg 720 gaggacctca agctatccct ggagctatcc cgggtgcaca cggacttgct ccttcaggtg 780 gacttcgccc ggcgccggga gccggaccgg gaggggctta aggccttttt ggagaggctg 840 gagttcggaa gcctcctcca cgagttcggc ctgttggaaa gcccggtggc ggcggaggaa 900 gctccctggc cgcccccga gggagccttc gtggggtacg ttctttcccg ccccgagccc 960 atgtgggcgg agettaacge ettggeegee geetggggeg geegegtgea eegggeagea 1020 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 gectaeetee tgggeeeete gaacaccaee eeegagggg tggegeggeg etaeggggg 1200 gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1260 cttaagcgcc tcgagggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320 ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt 1380 caggecettt eeetggaget tgeggaggag ateegeegee tegaggagga ggtetteege 1440 ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500 gagettagge tteeegeett gaagaagaeg aagaagaeag geaagegete caccagegee 1560 gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg 1620 gageteacea ageteaagaa eacetaegtg gaceceetee eaageetegt eeacecgagg 1680 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740 tecgaeeeca acetgeagaa cateeeegte egeaeeeeet tgggeeagag gateegeegg 1800

gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860 cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag 1920 gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccggaggc cgtggacccc 1980 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat 2040 aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae 2100 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220 gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280 geegeegace teatgaaget egeeatggtg aagetettee eeegeeteeg ggagatgggg 2340 gcccgcatgc tcctccaggt cgccaacgag ctcctcctgg aggcccccca agcgcgggcc 2400 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520 caccac 2526

<210> 2766

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2766

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Ile Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 110 Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly 165 Leu Lys Pro Ser Gln Trp Val Asp Tyr Arg Ala Leu Ala Gly Asp Pro Ser Asp Asn Ile Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Ala Lys Leu Ile Arg Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys His Leu Glu Gln Val Lys Pro Ala Ser Val Arg Glu Lys Ile Leu Ser His Met Glu Asp Leu Lys Leu Ser Leu Glu Leu Ser Arg Val His Thr Asp Leu 245 Leu Leu Gln Val Asp Phe Ala Arg Arg Glu Pro Asp Arg Glu Gly 265 270 Leu Lys Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu 285 Phe Gly Leu Leu Glu Ser Pro Val Ala Ala Glu Glu Ala Pro Trp Pro 290 295 Pro Pro Glu Gly Ala Phe Val Gly Tyr Val Leu Ser Arg Pro Glu Pro 305 320

330

Met Trp Ala Glu Leu Asn Ala Leu Ala Ala Ala Trp Gly Gly Arg Val

325

Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu 370 375 380

Gly Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly 385 390 395 400

Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
405 410 415

His Arg Asn Leu Leu Lys Arg Leu Glu Glu Glu Glu Lys Leu Leu Trp 420 425 430

Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met 435 440 445

Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser 450 455 460

Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg 465 470 475 480

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg 485 490 495

Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys 500 505 510

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu 515 520 525

Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys 530 540

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg 545 . 550 . 555 . 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr

- Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 595 600 605
- Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 620
- His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 630 635 640
- Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 650 655
- Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 670
- Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685
- Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700
- Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720
- Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp 725 730 735
- Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750
- Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765
- Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 775 780
- Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800
- Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815
- Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835

<210> 2767

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2767

atgaattccg	aggcgatgct	tccgctcttt	gaacccaaag	gccgggtcct	cctggtggac	60
ggccaccacc	tggcctaccg	caccttcttc	gccctgaagg	gcctcaccac	gagccggggc	120
gaaccggtgc	aggcggtcta	cggcttcgcc	aagagcctcc	tcaaggccct	gaaggaggac	180
gggtacaagg	ccgtcatcgt	ggtctttgac	gccgaggccc	cctccttccg	ccacgaggcc	240
tacgaggcct	acaaggcggg	gagggccccg	acccccgagg	acttcccccg	gcagctcgcc	300
ctcatcaagg	agctggtgga	cctcctgggg	tttacccgcc	tcgaggtccc	cggctacgag	360
gcggacgacg	ttctcgccac	cctggccaag	aaggcggaaa	aggaggggta	cgaggtgcgc	420
atcctcaccg	ccgaccgcga	cctctaccaa	ctcgtctccg	accgcgtcgc	cgtcctccac	480
cccgagggcc	acctcatcac	cccggagtgg	ctttgggaga	agtacggcct	caggccggag	540
cagtgggtgg	acttccgcgc	cctcgtgggg	gacccctccg	acaacctccc	cggggtcaag	600
ggcatcgggg	agaagaccgc	cctcaagctc	ctcaaggagt	ggggaagcct	ggaaaacctc	660
ctcaagcacc	tggaacaggt	gaaacctgcc	tccgtgcggg	agaagatcct	tagccacatg	720
gaggacctca	agctatccct	ggagctatcc	cgggtgcaca	cggacttgct	ccttcaggtg	780
gacttcgccc	ggcgccggga	gccggaccgg	gaggggctta	aggccttttt	ggagaggctg	840
gagttcggaa	gcctcctcca	cgagttcggc	ctgttggaaa	gcccggtggc	ggcggaggaa	900
gctccctggc	cgcccccga	gggagccttc	gtggggtacg	ttctttcccg	ccccgagccc	960
atgtgggcgg	agcttaacgc	cttggccgcc	gcctggggcg	gccgcgtgca	ccgggcagca	1020
gaccccttgg	cggggctaaa	ggacctcaag	gaggtccggg	gcctcctcgc	caaggacctc	1080
gccgtcttgg	cctcgaggga	ggggctagac	ctcgtgcccg	gggacgaccc	catgctcctc	1140
gcctacctcc	tgggcccctc	gaacaccacc	cccgaggggg	tggcgcggcg	ctacgggggg	1200
gagtggacgg	aggacgccgc	ccaccgggcc	ctcctctcgg	agaggctcca	tcggaacctc	1260
cttaagcgcc	tcgaggggga	ggagaagctc	ctttggctct	accacgaggt	ggaaaagccc	1320

```
ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt
                                                                     1380
caggecettt eeetggaget tgeggaggag ateegeegee tegaggagga ggtetteege
                                                                     1440
ttggcgggcc acccettcaa cetcaactee egggaceage tggaaagggt getetttgae
                                                                     1500
gagettagge tteeegeett gaagaagaeg aagaagaeag geaagegete caccagegee
                                                                     1560
gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg
                                                                     1620
gageteacea ageteaagaa cacetaegtg gaceceetee caageetegt ceaceegagg
                                                                     1680
acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc
                                                                     1740
tecgaececa acetgeagaa cateceegte egeaececet tgggeeagag gateegeegg
                                                                     1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc
                                                                     1860
cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag
                                                                     1920
gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccggaggc cgtggacccc
                                                                     1980
ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat
                                                                     2040
aggetetece aggagettge catecectae gaggaggegg tggeetttat agagegetae
                                                                     2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag
                                                                     2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg
                                                                     2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc
                                                                     2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg
                                                                     2340
gcccgcatgc tcctccaggt cgccaacgag ctcctcctgg aggcccccca agcgcgggcc
                                                                     2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc
                                                                     2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccac
                                                                     2520
caccac
                                                                     2526
```

<210> 2768

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2768

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu	Leu	vai	20	GIY	HIS	HIS	Leu	A1a 25	Tyr	Arg	Thr	Phe	Phe 30	Ala	Let
Lys	Gly	Leu 35	Thr	Thr	Ser	Arg	Gly 40	Glu	Pro	Val	Gln	Ala 45	Val	Tyr	Gly
Phe	Ala 50	Lys	Ser	Leu	Leu	Lys 55	Ala	Leu	Lys	Glu	Asp 60	Gly	Tyr	Lys	Ala
Val 65	Ile	Val	Val	Phe	Asp 70	Ala	Glu	Ala	Pro	Ser 75	Phe	Arg	His	Glu	Ala 80
Tyr	Glu	Ala	Tyr	Lys 85	Ala	Gly	Arg	Ala	Pro 90	Thr	Pro	Glu	Asp	Phe 95	Pro
Arg	Gln	Leu	Ala 100	Leu	Ile	Lys	Glu	Leu 105	Val	Asp	Leu	Leu	Gly 110	Phe	Thi
Arg	Leu	Glu 115	Val	Pro	Gly	Tyr	Glu 120	Ala	Asp	Asp	Val	Leu 125	Ala	Thr	Leu
Ala	Lys 130	Lys	Ala	Glu	Lys	Glu 135	Gly	Tyr	Glu	Val	Arg 140	Ile	Leu	Thr	Ala
Asp 145	Arg	Asp	Leu	Tyr	Gln 150	Leu	Val	Ser	Asp	Arg 155	Val	Ala	Val	Leu	His 160
Pro	Glu	Gly	His	Leu 165	Ile	Thr	Pro	Glu	Trp 170	Leu	Trp	Glu	Lys	Tyr 175	Gly
Leu	Arg	Pro	Glu 180	Gln	Trp	Val	Asp	Phe 185	Arg	Ala	Leu	Val	Gly 190	Asp	Pro
Ser	Asp	Asn 195	Leu	Pro	Gly	Val	Lys 200	Gly	Ile	Gly	Glu	Lys 205	Thr	Ala	Leu
Гуs	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	His	Leu
31u 225	Gln	Val	Lys	Pro	Ala 230	Ser	Val	Arg	Glu	Lys 235	Ile	Leu	Ser	His	Met 240
3lu	Asp	Leu	Lys	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	His	Thr	Asp 255	Leu
Leu	Leu	Gln	Val 260	Asp	Phe	Ala	Arg	Arg 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly

Leu Lys Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu 275 280 285

Phe Gly Leu Leu Glu Ser Pro Val Ala Ala Glu Glu Ala Pro Trp Pro 290 295 300

Pro Pro Glu Gly Ala Phe Val Gly Tyr Val Leu Ser Arg Pro Glu Pro 305 310 315

Met Trp Ala Glu Leu Asn Ala Leu Ala Ala Ala Trp Gly Gly Arg Val 325 330 335

His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val 340 345 350

Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly 355 360 365

Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu 370 375 380

Gly Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly 385 390 395 400

Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
405 410 415

His Arg Asn Leu Leu Lys Arg Leu Glu Glu Glu Lys Leu Trp
420 425 430

Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met 435 440 445

Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser 450 455 460

Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg 465 470 475 480

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg 485 490 495

Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys
500 505 510

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu

- Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys 535 Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 585 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 615 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 630 635 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 650 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 680 685 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705
- Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835

<210> 2769

<211> 2532

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2769

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcatcgt ggtctttgac gccgaggccc cctccttccg ccacgaggcc 240 tacgaggeet acaaggeggg gagggeeeeg acceegagg actteeeeg geagetegee 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420 atceteaceg cegacegega cetetaceaa etegteteeg acegegtege egteeteeae 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccggac tcgctccggc gcaagataga ggcgcacctc 720 gaggacetee accteteett agacetggee egeateegea eegaceteee eetggaggtg 780 gactttaagg ccctgcgccg caggaccccc gacctggagg gcctgagggc ctttttggag 840

gagctggagt	tcggaagcct	cctccacgag	ttcggcctcc	tgggagggga	gaagccccgg	900
gaggaggccc	cctggccccc	gcccgaaggg	gccttcgtgg	gcttcctcct	ttcccgcaag	960
gagcccatgt	gggcggagct	tctggccctg	gcggcggcct	cgggcggccg	cgtgcaccgg	1020
gcagcagacc	ccttggcggg	gctaaaggac	ctcaaggagg	tccggggcct	cctcgccaag	1080
gacctcgccg	tcttggcctc	gagggagggg	ctagacctcg	tgcccgggga	cgaccccatg	1140
ctcctcgcct	acctcctggg	cccctcgaac	accacccccg	agggggtggc	gcggcgctac	1200
ggggggagt	ggacggagga	cgccgcccac	cgggccctcc	tctcggagag	gctccatcgg	1260
aacctcctta	agcgcctcga	gggggaggag	aagctccttt	ggctctacca	cgaggtggaa	1320
aagcccctct	cccgggtcct	ggcccatatg	gaggccaccg	gggtacggct	ggacgtggcc	1380
taccttcagg	ccctttccct	ggagcttgcg	gaggagatcc	gccgcctcga	ggaggaggtc	1440
ttccgcttgg	cgggccaccc	cttcaacctc	aactcccggg	accagctgga	aagggtgctc	1500
tttgacgagc	ttaggcttcc	cgccttgaag	aagacgaaga	agacaggcaa	gcgctccacc	1560
agcgccgcgg	tgctggaggc	cctacgggag	gcccacccca	tcgtggagaa	gatcctccag	1620
caccgggagc	tcaccaagct	caagaacacc	tacgtggacc	ccctcccaag	cctcgtccac	1680
ccgaggacgg	gccgcctcca	cacccgcttc	aaccagacgg	ccacggccac	ggggaggctt	1740
agtagctccg	accccaacct	gcagaacatc	cccgtccgca	ccccttggg	ccagaggatc	1800
cgccgggcct	tcgtggccga	ggcgggttgg	gcgttggtgg	ccctggacta	tagccagata	1860
gageteegeg	tcctcgccca	cctctccggg	gacgaaaacc	tgatcagggt	cttccaggag	1920
gggaaggaca	tccacaccca	gaccgcaagc	tggatgttcg	gcgtccccc	ggaggccgtg	1980
gaccccctga	tgcgccgggc	ggccaagacg	gtgaacttcg	gcgtcctcta	cggcatgtcc	2040
gcccataggc	tctcccagga	gcttgccatc	ccctacgagg	aggcggtggc	ctttatagag	2100
cgctacttcc	aaagcttccc	caaggtgcgg	gcctggatag	aaaagaccct	ggaggagggg	2160
aggaagcggg	gctacgtgga	aaccctcttc	ggaagaaggc	gctacgtgcc	cgacctcaac	2220
gcccgggtga	agagcgtcag	ggaggccgcg	gagcgcatgg	ccttcaacat	gcccgtccag	2280
ggcaccgccg	ccgacctcat	gaagctcgcc	atggtgaagc	tcttcccccg	cctccgggag	2340
atgggggccc	gcatgctcct	ccaggtcgcc	aacgagctcc	tcctggaggc	ccccaagcg	2400
cgggccgagg	aggtggcggc	tttggccaag	gaggccatgg	agaaggccta	tcccctcgcc	2460
gtgcccctgg	aggtggaggt	ggggatgggg	gaggactggc	tttccgccaa	gggtcaccac	2520
caccaccacc	ac					2532

<210> 2770

<211> 844

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2770

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Ile Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly 165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205

_, _	210	Dea	БуБ	Olu	тър	215	DCI	пец	Giu	ASII	220	пец	пуъ	ASII	nei
Asp 225	Arg	Val	Lys	Pro	Asp 230	Ser	Leu	Arg	Arg	Lys 235	Ile	Glu	Ala	His	Let 240
Glu	Asp	Leu	His	Leu 245	Ser	Leu	Asp	Leu	Ala 250	Arg	Ile	Arg	Thr	Asp 255	Lei
Pro	Leu	Glu	Val 260	Asp	Phe	Lys	Ala	Leu 265	Arg	Arg	Arg	Thr	Pro 270	Asp	Let
Glu	Gly	Leu 275	Arg	Ala	Phe	Leu	Glu 280	Glu	Leu	Glu	Phe	Gly 285	Ser	Leu	Lei
His	Glu 290	Phe	Gly	Leu	Leu	Gly 295	Gly	Glu	Lys	Pro	Arg 300	Glu	Glu	Ala	Pro
Trp 305	Pro	Pro	Pro	Glu	Gly 310	Ala	Phe	Val	Gly	Phe 315	Leu	Leu	Ser	Arg	Lys 320
Glu	Pro	Met	Trp	Ala 325	Glu	Leu	Leu	Ala	Leu 330	Ala	Ala	Ala	Ser	Gly 335	Gl
Arg	Val	His	Arg 340	Ala	Ala	Asp	Pro	Leu 345	Ala	Gly	Leu	Lys	Asp 350	Leu	Lys
Glu	Val	Arg 355	Gly	Leu	Leu	Ala	Lys 360	Asp	Leu	Ala	Val	Leu 365	Ala	Ser	Arg
Glu	Gly 370	Leu	Asp	Leu	Val	Pro 375	Gly	Asp	Asp	Pro	Met 380	Leu	Leu	Ala	Туз
Leu 385	Leu	Gly	Pro	Ser	Asn 390	Thr	Thr	Pro	Glu	Gly 395	Val	Ala	Arg	Arg	Ty1
Gly	Gly	Glu	Trp	Thr 405	Glu	Asp	Ala	Ala	His 410	Arg	Ala	Leu	Leu	Ser 415	Glı
Arg	Leu	His	Arg 420	Asn	Leu	Leu	Lys	Arg 425	Leu	Glu	Gly	Glu	Glu 430	Lys	Leu
Leu	Trp	Leu 435	Tyr	His	Glu	Val	Glu 440	Lys	Pro	Leu	Ser	Arg 445	Val	Leu	Ala
His	Met	Glu	Ala	Thr	Gly	Val	Arg	Leu	Asp	Val	Ala	Tyr	Leu	Gln	Ala

Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val 465 470 475 480

Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu 485 490 495

Glu Arg Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr 500 505 510

Lys Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu 515 520 525

Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu 530 540

Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His 545 550 555 560

Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala 565 570 575

Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val 580 585 590

Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala 595 600 605

Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val 610 615 620

Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu 625 630 635 640

Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro 645 650 655

Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn 660 665 670

Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu 675 680 685

Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln 690 695 700

Ser 705	Phe	Pro	Lys	Val	Arg 710	Ala	Trp	Ile	Glu	Lys 715	Thr	Leu	Glu	Glu	Gly 720	
Arg	Lys	Arg	Gly	Tyr 725	Val	Glu	Thr	Leu	Phe 730	Gly	Arg	Arg	Arg	Tyr 735	Val	
Pro	Asp	Leu	Asn 740	Ala	Arg	Val	Lys	Ser 745	Val	Arg	Glu	Ala	Ala 750	Glu	Arg	
Met	Ala	Phe 755	Asn	Met	Pro	Val	Gln 760	Gly	Thr	Ala	Ala	Asp 765	Leu	Met	Lys	
Leu	Ala 770	Met	Val	Lys	Leu	Phe 775	Pro	Arg	Leu	Arg	Glu 780	Met	Gly	Ala	Arg	
Met 785	Leu	Leu	Gln	Val	Ala 790	Asn	Glu	Leu	Leu	Leu 795	Glu	Ala	Pro	Gln	Ala 800	
Arg	Ala	Glu	Glu	Val 805	Ala	Ala	Leu	Ala	Lys 810	Glu	Ala	Met	Glu	Lys 815	Ala	
Tyr	Pro	Leu	Ala 820	Val	Pro	Leu	Glu	Val 825	Glu	Val	Gly	Met	Gly 830	Glu	Asp	
Trp	Leu	Ser 835	Ala	Lys	Gly	His	His 840	His	His	His	His					
<210)> 2	2771														
<211	.> 2	532														
<212	!> I	NA														
<213	> P	rtii	icia	al Se	equer	ıce										
<220	>															
<223	> S	yntl	netic	:												
<400 atga		:771 :cg a	ggcg	gatgo	t to	cgct	cttt	gaa	ıccca	aag	gccg	ggto	ct o	ectge	ıtggac	6
ggcc	acca	icc t	ggcc	tacc	g ca	cctt	cttc	gcc	ctga	agg	gcct	caco	ac g	gaged	ggggc	120
gaac	cggt	gc a	ggcg	gtct	a cg	gctt	cgcc	aag	agco	tcc	tcaa	ggco	ct c	gaagg	gaggac	180
gggt	acaa	igg d	cgtc	atcg	rt gg	tctt	tgac	gco	gagg	ccc	cctc	cttc	cg c	cacg	gaggcc	240
tacg	aggo	ct a	caag	gcgg	g ga	.gggc	cccg	acc	cccg	agg	actt	cccc	cg g	gcago	tcgcc	300
ctca	tcaa	gg a	gctg	gtgg	a cc	tcct	9999	ttt	acco	gcc	tcga	ggto	cc c	ggct	acgag	360

gcggacgacg	ttctcgccac	cctggccaag	aaggcggaaa	aggaggggta	cgaggtgcgc	420
atcctcaccg	ccgaccgcga	cctctaccaa	ctcgtctccg	accgcgtcgc	cgtcctccac	480
cccgagggcc	acctcatcac	cccgaaggac	gtccaggaga	agtacggggt	gcccccggag	540
cgctgggtgg	acttccgcgc	cctcacgggg	gaccgctcgg	acaacatccc	cggggtggcg	600
gggatagggg	agaagaccgc	ccttcgactc	ctcgcagagt	gggggagcgt	ggaaaacctc	660
ctgaagaacc	tggaccgggt	aaagccggac	tcgctccggc	gcaagataga	ggcgcacctc	720
gaggacctcc	acctctcctt	agacctggcc	cgcatccgca	ccgacctccc	cctggaggtg	780
gactttaagg	ccctgcgccg	caggaccccc	gacctggagg	gcctgagggc	ctttttggag	840
gagctggagt	tcggaagcct	cctccacgag	ttcggcctcc	tgggagggga	gaagccccgg	900
gaggaggccc	cctggccccc	gcccgaaggg	gccttcgtgg	gcttcctcct	ttcccgcaag	960
gagcccatgt	gggcggagct	tctggccctg	gcggcggcct	cgggcggccg	cgtgcaccgg	1020
gcagcagacc	ccttggcggg	gctaaaggac	ctcaaggagg	tccggggcct	cctcgccaag	1080
gacctcgccg	tcttggcctc	gagggagggg	ctagacctcg	tgcccgggga	cgaccccatg	1140
ctcctcgcct	acctcctggg	cccctcgaac	accacccccg	agggggtggc	gcggcgctac	1200
ggggggagt	ggacggagga	cgccgcccac	cgggccctcc	tctcggagag	gctccatcgg	1260
aacctcctta	agcgcctcga	gggggaggag	aagctccttt	ggctctacca	cgaggtggaa	1320
aagcccctct	cccgggtcct	ggcccatatg	gaggccaccg	gggtacggcg	ggacgtggcc	1380
taccttcagg	ccctttccct	ggagcttgcg	gaggagatcc	gccgcctcga	ggaggaggtc	1440
ttccgcttgg	cgggccaccc	cttcaacctc	aactcccggg	accagctgga	aagggtgctc	1500
tttgacgagc	ttaggcttcc	cgccttgaag	aagacgaaga	agacaggcaa	gcgctccacc	1560
agcgccgcgg	tgctggaggc	cctacgggag	gcccacccca	tcgtggagaa	gatcctccag	1620
caccgggagc	tcaccaagct	caagaacacc	tacgtggacc	ccctcccaag	cctcgtccac	1680
ccgaggacgg	gccgcctcca	cacccgcttc	aaccagacgg	ccacggccac	ggggaggctt	1740
agtagctccg	accccaacct	gcagaacatc	cccgtccgca	ccccttggg	ccagaggatc	1800
cgccgggcct	tcgtggccga	ggcgggttgg	gcgttggtgg	ccctggacta	tagccagata	1860
gagctccgcg	tcctcgccca	cctctccggg	gacgaaaacc	tgatcagggt	cttccaggag	1920
gggaaggaca	tccacaccca	gaccgcaagc	tggatgttcg	gcgtcccccc	ggaggccgtg	1980
gaccccctga	tgcgccgggc	ggccaagacg	gtgaacttcg	gcgtcctcta	cggcatgtcc	2040
gcccataggc	tctcccagga	gcttgccatc	ccctacgagg	aggcggtggc	ctttatagag	2100
cgctacttcc	aaagcttccc	caaggtgcgg	gcctggatag	aaaagaccct	ggaggaggg	2160
aggaagcggg	gctacgtgga	aaccctcttc	ggaagaaggc	gctacgtgcc	cgacctcaac	2220

gcccgggtga	agagcgtcag	ggaggccgcg	gagcgcatgg	ccttcaacat	gcccgtccag	2280
ggcaccgccg	ccgacctcat	gaagctcgcc	atggtgaagc	tcttcccccg	cctccgggag	2340
atgggggccc	gcatgctcct	ccaggtcgcc	aacgagctcc	tcctggaggc	ccccaagcg	2400
cgggccgagg	aggtggcggc	tttggccaag	gaggccatgg	agaaggccta	tcccctcgcc	2460
gtgcccctgg	aggtggaggt	ggggatgggg	gaggactggc	tttccgccaa	gggtcaccac	2520
caccaccacc	ac					2532

<210> 2772

<211> 844

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2772

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Ile Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 150 Pro Glu Gly His Leu Ile Thr Pro Lys Asp Val Gln Glu Lys Tyr Gly Val Pro Pro Glu Arg Trp Val Asp Phe Arg Ala Leu Thr Gly Asp Arg Ser Asp Asn Ile Pro Gly Val Ala Gly Ile Gly Glu Lys Thr Ala Leu Arg Leu Leu Ala Glu Trp Gly Ser Val Glu Asn Leu Leu Lys Asn Leu 215 Asp Arg Val Lys Pro Asp Ser Leu Arg Arg Lys Ile Glu Ala His Leu 230 235 Glu Asp Leu His Leu Ser Leu Asp Leu Ala Arg Ile Arg Thr Asp Leu Pro Leu Glu Val Asp Phe Lys Ala Leu Arg Arg Thr Pro Asp Leu 260 265 Glu Gly Leu Arg Ala Phe Leu Glu Glu Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu Gly Gly Glu Lys Pro Arg Glu Glu Ala Pro 290 Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Phe Leu Leu Ser Arg Lys 315 Glu Pro Met Trp Ala Glu Leu Leu Ala Leu Ala Ala Ala Ser Gly Gly Arg Val His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys 345 Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr

380

375

370

Leu Leu Gly Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr 390 395 Gly Gly Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu 405 Arg Leu His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu 420 Leu Trp Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala 440 His Met Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val 470 Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His 545 550 555 Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala 565 Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val 580 Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val 610 Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu 625 635

Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro 645 650 655

Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn 660 665 670

Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu 675 680 685

Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln 690 695 700

Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly 705 710 715 720

Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val 725 730 735

Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg
740 745 750

Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys 755 760 765

Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg 770 775 780

Met Leu Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala 785 790 795 800

Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala 805 810 815

Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp 820 825 830

Trp Leu Ser Ala Lys Gly His His His His His His 835 840

<210> 2773

<211> 2526

<212> DNA

<213> Artificial Sequence

<223> Synthetic

2773 <400> atgaatteeg aggegatget teegetettt gaaceeaaag geegggteet eetggtggae 60 ggccaccacc tggcctaccg caccttette gecetgaagg geetcaccae gageegggge 120 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180 gggtacaagg ccgtcatcgt ggtctttgac gccgaggccc cctccttccg ccacgaggcc 240 tacgaggeet acaaggeggg gagggeeeeg acceeegagg actteeeeeg geagetegee 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtgcc gggctttgaa 360 geggatgaeg teetggetae eetggeeaag aaggeggaaa aggaaggeta egaagtgege 420 atecteaceg eggaceggga cetttaceag ettetttegg agegaatete cateetteae 480 ccggagggtt acctgatcac cccggagtgg ctttgggaga agtatgggct taagccttcc 540 cagtgggtgg actaccgggc cttggccggg gaccettccg acaacatece cggcgtgaag 600 ggcatcgggg agaagacggc ggccaagctg atccgggagt ggggaagcct ggaaaacctt 660 cttaagcacc tggaacaggt gaaacctgcc tccgtgcggg agaagatcct tagccacatg 720 gaggacetea agetateeet ggagetatee egggtgeaca eggaettget eetteaggtg 780 gacttcgccc ggcgccggga gccggaccgg gaggggctta aggccttttt ggagaggctg 840 gagtteggaa geeteeteea egagttegge etgttggaaa geeeggtgge ggeggaggaa 900 getecetgge egececeega gggageette gtggggtaeg ttettteeeg eeeegageee 960 atgtgggcgg agettaacge ettggeegee geetggggeg geegegtgea eegggeagea 1020 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080 gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgaccc catgctcctc 1140 gcctacctcc tgggcccctc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg 1200 gagtggacgg aggacgccgc ccaccgggcc ctcctctcgg agaggctcca tcggaacctc 1260 cttaagegee tegaggggga ggagaagete etttggetet accaegaggt ggaaaageee 1320 ctctcccggg tcctggccca tatggaggcc accggggtac ggctggacgt ggcctacctt 1380 caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440 ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500 gagettagge ttecegeett gaagaagaeg aagaagaeag geaagegete caccagegee 1560 gcggtgctgg aggccctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg 1620 gageteacca ageteaagaa cacetaegtg gaceceetee caageetegt ceaceegagg 1680 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740

teegaceeca acetgeagaa cateecegte egeaceeect tgggeeagag gateegeegg 1800 gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860 cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaaq 1920 gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccggaggc cgtggacccc 1980 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccat 2040 aggetetece aggagettge cateceetae gaggaggegg tggeetttat agagegetae 2100 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220 gtgaagageg teagggagge egeggagege atggeettea acatgeeegt eeagggeace 2280 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340 gecegeatge teetecaggt egecaaegag eteeteetgg aggeeeeca agegegggee 2400 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520 caccac 2526

<210> 2774

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2774

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Ile Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala

80

Tyr	Glu	Ala	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	${\tt Pro}$	Glu	Asp	Phe	Pro
				85					90					95	

75

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 105 110

Arg Leu Glu Val Pro Gly Phe Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Leu Ser Glu Arg Ile Ser Ile Leu His 145 150 155 160

Pro Glu Gly Tyr Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Lys Pro Ser Gln Trp Val Asp Tyr Arg Ala Leu Ala Gly Asp Pro 180 185 190

Ser Asp Asn Ile Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Ala 195 200 205

Lys Leu Ile Arg Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys His Leu 210 215 220

Glu Gln Val Lys Pro Ala Ser Val Arg Glu Lys Ile Leu Ser His Met 225 230 235 240

Glu Asp Leu Lys Leu Ser Leu Glu Leu Ser Arg Val His Thr Asp Leu 245 250 255

Leu Leu Gln Val Asp Phe Ala Arg Arg Glu Pro Asp Arg Glu Gly 260 265 270

Leu Lys Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu 275 280 285

Phe Gly Leu Leu Glu Ser Pro Val Ala Ala Glu Glu Ala Pro Trp Pro 290 295 300

Pro Pro Glu Gly Ala Phe Val Gly Tyr Val Leu Ser Arg Pro Glu Pro 305 310 315 320

Met	Trp	Ala	Glu	Leu 325	Asn	Ala	Leu	Ala	Ala 330	Ala	Trp	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Lys	Lys	Thr 510	Lys	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	Ala	Thr	Ala	Thr	Gly

AIG	Leu	261	580	261	Asp	PIO	ASII	585	GIII	ASII	116	PIO	590	Arg	1111
Pro	Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp
Ala	Leu 610	Val	Ala	Leu	Asp	Tyr 615	Ser	Gln	Ile	Glu	Leu 620	Arg	Val	Leu	Ala
His 625	Leu	Ser	Gly	Asp	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Lys 640
Asp	Ile	His	Thr	Gln 645	Thr	Ala	Ser	Trp	Met 650	Phe	Gly	Val	Pro	Pro 655	Glu
Ala	Val	Asp	Pro 660	Leu	Met	Arg	Arg	Ala 665	Ala	Lys	Thr	Val	Asn 670	Phe	Gly
Val	Leu	Tyr 675	Gly	Met	Ser	Ala	His 680	Arg	Leu	Ser	Gln	Glu 685	Leu	Ala	Ile
Pro	Tyr 690	Glu	Glu	Ala	Val	Ala 695	Phe	Ile	Glu	Arg	Tyr 700	Phe	Gln	Ser	Ph∈
Pro 705	Lys	Val	Arg	Ala	Trp 710	Ile	Glu	Lys	Thr	Leu 715	Glu	Glu	Gly	Arg	Lys 720
Arg	Gly	Tyr	Val	Glu 725	Thr	Leu	Phe	Gly	Arg 730	Arg	Arg	Tyr	Val	Pro 735	Asp
Leu	Asn	Ala	Arg 740	Val	Lys	Ser	Val	Arg 745	Glu	Ala	Ala	Glu	Arg 750	Met	Ala
Phe	Asn	Met 755	Pro	Val	Gln	Gly	Thr 760	Ala	Ala	Asp	Leu	Met 765	Lys	Leu	Ala
Met	Val 770	Lys	Leu	Phe	Pro	Arg 775	Leu	Arg	Glu	Met	Gly 780	Ala	Arg	Met	Leu
Leu 785	Gln	Val	Ala	Asn	Glu 790	Leu	Leu	Leu	Glu	Ala 795	Pro	Gln	Ala	Arg	Ala 800
Glu	Glu	Val	Ala	Ala 805	Leu	Ala	Lys	Glu	Ala 810	Met	Glu	Lys	Ala	Tyr 815	Pro
Leu	Ala	Val	Pro	Leu	Glu	Val	Glu	Val	Gly	Met	Gly	Glu	Asp	Trp	Leu

820 825 830

Ser Ala Lys Gly His His His His His His 835 840

<210> 2775

<211> 2514

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2775

atgaattccc tgcccctctt tgagcccaag ggccgggtgc ttctggtgga cggccaccac 60 ctggcctacc gtaccttttt tgccctgaag ggcctcacca ccagccgcgg ggagccggtc 120 caggcggtgt acgggtttgc caagagcctt ttgaaggcgc taagggaaga cggggatgtg 180 gtgatcgtgg tctttgacgc cgaggccccc tccttccgcc accagaccta cgaggcctac 240 aaggcggggc gggctcccac ccccgaggac tttccccggc agcttgccct tatcaaggag 300 atggtggacc ttttgggcct ggagcgcctc gaggtgccgg gctttgaagc ggatgacgtc 360 ctggctaccc tggccaagaa ggcggaaaag gaaggctacg aagtgcgcat cctcaccgcg 420 gaccgggacc tttaccagct tctttcggag cgaatctcca tccttcaccc ggagggttac 480 ctgatcaccc cggagtggct ttgggagaag tacggcctca ggccggagca gtgggtggac 540 ttccgcgccc tcgtggggga cccctccgac aacctccccg gggtcaaggg catcggggag 600 aagaccgccc tcaagctcct caaggagtgg ggaagcctgg aaaacctcct caagaacctg 660 gaccgggtaa agccagaaaa cgtccgggag aagatcaagg cccacctgga agacctcagg 720 eteteettgg ageteteeeg ggtgegeace gaceteeece tggaggtgga cetegeeeag 780 gggcgggagc ccgaccggga ggggcttagg gccttcctgg agaggctgga gttcggcagc 840 ctcctccacg agttcggcct cctggaggcc cccgccccc tggaggaggc cccctggccc 900 ccgccggaag gggccttcgt gggcttcgtc ctctcccgcc ccgagcccat gtgggcggag 960 cttaaagccc tggccgcctg caggggcggc cgcgtgcacc gggcagcaga ccccttggcg 1020 gggctaaagg acctcaagga ggtccggggc ctcctcgcca aggacctcgc cgtcttggcc 1080 tegagggagg ggetagaeet egtgeeeggg gaegaeeeea tgeteetege etaceteetg 1140 ggcccctcga acaccaccc cgagggggtg gcgcggcgct acggggggga gtggacggag 1200

gacgccgccc accgggccct cctctcggag aggctccatc ggaacctcct taagcgcctc 1260 1320 gagggggagg agaagctcct ttggctctac cacgaggtgg aaaagcccct ctcccgggtc 1380 ctggcccata tggaggccac cggggtacgg ctggacgtgg cctaccttca ggccctttcc ctggagcttg cggaggagat ccgccgcctc gaggaggagg tcttccgctt ggcgggccac 1440 cccttcaacc tcaactcccg ggaccagctg gaaagggtgc tctttgacga gcttaggctt 1500 cccgccttga agaagacgaa gaagacaggc aagcgctcca ccagcgccgc ggtgctggag 1560 1620 gccctacggg aggcccaccc catcgtggag aagatcctcc agcaccggga gctcaccaag ctcaagaaca cctacgtgga cccctccca agcctcgtcc acccgaggac gggccgcctc 1680 cacacceget teaaccagae ggecaeggee aeggggagge ttagtagete egaeceeaae 1740 1800 ctgcagaaca tccccgtccg caccccttg ggccagagga tccgccgggc cttcgtggcc gaggcgggtt gggcgttggt ggccctggac tatagccaga tagagctccg cgtcctcgcc 1860 1920 cacctctccg gggacgaaaa cctgatcagg gtcttccagg aggggaagga catccacacc cagaccgcaa gctggatgtt cggcgtcccc ccggaggccg tggaccccct gatgcgccgg 1980 2040 gcggccaaga cggtgaactt cggcgtcctc tacggcatgt ccgcccatag gctctcccag gagettgeca teceetaega ggaggeggtg geetttatag agegetaett ecaaagette 2100 cccaaggtgc gggcctggat agaaaagacc ctggaggagg ggaggaagcg gggctacgtg 2160 gaaaccctct tcggaagaag gcgctacgtg cccgacctca acgcccgggt gaagagcgtc 2220 agggaggceg eggagegeat ggeetteaac atgecegtee agggeacege egeegaeete 2280 atgaageteg ceatggtgaa getetteeee egeeteeggg agatggggge eegeatgete 2340 ctccaggtcg ccaacgagct cctcctggag gccccccaag cgcgggccga ggaggtggcg 2400 gctttggcca aggaggccat ggagaaggcc tatcccctcg ccgtgcccct ggaggtggag 2460 gtggggatgg gggaggactg gctttccgcc aagggtcacc accaccacca ccac 2514

<210> 2776

<211> 838

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2776

Met Asn Ser Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val

Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly Leu 20 25 30

Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys 35 40 45

Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Val Val Ile Val Val 50 55 60

Phe Asp Ala Glu Ala Pro Ser Phe Arg His Gln Thr Tyr Glu Ala Tyr 65 70 75 80

Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala 85 90 95

Leu Ile Lys Glu Met Val Asp Leu Leu Gly Leu Glu Arg Leu Glu Val
100 105 110

Pro Gly Phe Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala 115 120 125

Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Arg Asp Leu 130 135 140

Tyr Gln Leu Leu Ser Glu Arg Ile Ser Ile Leu His Pro Glu Gly Tyr 145 150 155 160

Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly Leu Arg Pro Glu 165 170 175

Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro Ser Asp Asn Leu 180 185 190

Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu Lys Leu Leu Lys 195 200 205

Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu Asp Arg Val Lys 210 215 220

Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu Glu Asp Leu Arg 225 230 235 240

Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu Pro Leu Glu Val
245 250 255

Asp	Leu	Ala	Gln 260	Gly	Arg	Glu	Pro	Asp 265	Arg	Glu	Gly	Leu	Arg 270	Ala	Phe
Leu	Glu	Arg 275	Leu	Glu	Phe	Gly	Ser 280	Leu	Leu	His	Glu	Phe 285	Gly	Leu	Leu
Glu	Ala 290	Pro	Ala	Pro	Leu	Glu 295	Glu	Ala	Pro	Trp	Pro 300	Pro	Pro	Glu	Gly
Ala 305	Phe	Val	Gly	Phe	Val 310	Leu	Ser	Arg	Pro	Glu 315	Pro	Met	Trp	Ala	Glu 320
Leu	Lys	Ala	Leu	Ala 325	Ala	Cys	Arg	Gly	Gly 330	Arg	Val	His	Arg	Ala 335	Ala
Asp	Pro	Leu	Ala 340	Gly	Leu	Lys	Asp	Leu 345	Lys	Glu	Val	Arg	Gly 350	Leu	Leu
Ala	Lys	Asp 355	Leu	Ala	Val	Leu	Ala 360	Ser	Arg	Glu	Gly	Leu 365	Asp	Leu	Val
Pro	Gly 370	Asp	Asp	Pro	Met	Leu 375	Leu	Ala	Tyr	Leu	Leu 380	Gly	Pro	Ser	Asn
Thr 385	Thr	Pro	Glu	Gly	Val 390	Ala	Arg	Arg	Tyr	Gly 395	Gly	Glu	Trp	Thr	Glu 400
Asp	Ala	Ala	His	Arg 405	Ala	Leu	Leu	Ser	Glu 410	Arg	Leu	His	Arg	Asn 415	Leu
Leu	Lys	Arg	Leu 420	Glu	Gly	Glu	Glu	Lys 425	Leu	Leu	Trp	Leu	Tyr 430	His	Glu
Val	Glu	Lys 435	Pro	Leu	Ser	Arg	Val 440	Leu	Ala	His	Met	Glu 445	Ala	Thr	Gly
Val	Arg 450	Leu	Asp	Val	Ala	Tyr 455	Leu	Gln	Ala	Leu	Ser 460	Leu	Glu	Leu	Ala
Glu 465	Glu	Ile	Arg	Arg	Leu 470	Glu	Glu	Glu	Val	Phe 475	Arg	Leu	Ala	Gly	His 480
Pro	Phe	Asn	Leu	Asn 485	Ser	Arg	Asp	Gln	Leu 490	Glu	Arg	Val	Leu	Phe 495	Asp
Glu	Leu	Arg	Leu 500	Pro	Ala	Leu	Lys	Lys 505	Thr	Lys	Lys	Thr	Gly 510	Lys	Arg

515 520 Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala 595 600 Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly 610 Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr 625 640 Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro 650 Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu 675 Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg

Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile

Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg 725 730 735

Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val

Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro 740 745 750

Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu

755 760 765

Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala 770 780

Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala 785 790 795 800

Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro 805 810 815

Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly 820 825 830

His His His His His His 835

<210> 2777

<211> 3135

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2777

atgaatteeg aggegatget teegetettt gaaeecaaag geegggteet eetggtggae 60 ggccaccacc tggcctaccg caccttette gccctgaagg gcctcaccac gagccqqqqc 120 gaaccggtgc aggcggtcta cggcttcgcc aagaqcctcc tcaaqqccct qaaqqaqac 180 gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240 tacgaggect acaaggeggg gagggeeeg acceeegagg actteeeeg geagetegee 300 ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360 geggaegaeg ttetegeeae cetggeeaag aaggeggaaa aggaggggta egaggtgege 420 atcctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540 cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600 ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720

gaagacctca	ggctctcctt	ggagctctcc	cgggtgcgca	ccgacctccc	cctggaggtg	780
gacctcgccc	aggggcggga	gcccgaccgg	gaggggctta	gggccttcct	ggagaggctg	840
gagttcggca	gcctcctcca	cgagttcggc	ctcctggagg	ccccgccc	cctggaggag	900
gccccctggc	ccccgccgga	aggggccttc	gtgggcttcg	tcctctcccg	ccccgagccc	960
atgtgggcgg	agcttaaagc	cctggccgcc	tgcaggggcg	gccgcgtgca	ccgggcagca	1020
gaccccttgg	cggggctaaa	ggacctcaag	gaggtccggg	gcctcctcgc	caaggacctc	1080
gccgtcttgg	cctcgaggga	ggggctagac	ctcgtgcccg	gggacgaccc	catgctcctc	1140
gcctacctcc	tgggcccctc	gaacaccacc	cccgaggggg	tggcgcggcg	ctacgggggg	1200
gagtggacgg	aggacgccgc	ccaccgggcc	ctcctctcgg	agaggctcca	tcggaacctc	1260
cttaagcgcc	tcgaggggga	ggagaagctc	ctttggctct	accacgaggt	ggaaaagccc	1320
ctctcccggg	tcctggccca	tatggaggcc	accggggtac	ggctggacgt	ggcctacctt	1380
caggcccttt	ccctggagct	tgcggaggag	atccgccgcc	tcgaggagga	ggtcttccgc	1440
ttggcgggcc	accccttcaa	cctcaactcc	cgggaccagc	tggaaagggt	gctctttgac	1500
gagcttaggc	ttcccgcctt	gaagaagacg	aagaagacag	gcaagcgctc	caccagcgcc	1560
gcggtgctgg	aggccctacg	ggaggcccac	cccatcgtgg	agaagatcct	ccagcaccgg	1620
gagctcacca	agctcaagaa	cacctacgtg	gaccccctcc	caagcctcgt	ccacccgagg	1680
acgggccgcc	tccacacccg	cttcaaccag	acggccacgg	ccacggggag	gcttagtagc	1740
tccgacccca	acctgcagaa	catccccgtc	cgcaccccct	tgggccagag	gatccgccgg	1800
gccttcgtgg	ccgaggcggg	ttgggcgttg	gtggccctgg	actatagcca	gatagagctc	1860
cgcgtcctcg	cccacctctc	cggggacgaa	aacctgatca	gggtcttcca	ggagggaag	1920
gacatccaca	cccagaccgc	aagctggatg	ttcggcgtcc	ccccggaggc	cgtggacccc	1980
ctgatgcgcc	gggcggccaa	gacggtgaac	ttcggcgtcc	tctacggcat	gtccgcccat	2040
aggetetece	aggagcttgc	catcccctac	gaggaggcgg	tggcctttat	agagcgctac	2100
ttccaaagct	tccccaaggt	gcgggcctgg	atagaaaaga	ccctggagga	ggggaggaag	2160
cggggctacg	tggaaaccct	cttcggaaga	aggcgctacg	tgcccgacct	caacgcccgg	2220
gtgaagagcg	tcagggaggc	cgcggagcgc	atggccttca	acatgcccgt	ccagggcacc	2280
gccgccgacc	tcatgaagct	cgccatggtg	aagctcttcc	cccgcctccg	ggagatgggg	2340
gcccgcatgc	tcctccaggt	cgccaacgag	ctcctcctgg	aggcccccca	agcgcgggcc	2400
gaggaggtgg	cggctttggc	caaggaggcc	atggagaagg	cctatcccct	cgccgtgccc	2460
ctggaggtgg	aggtggggat	gggggaggac	tggctttccg	ccaagggtca	ccaccaccac	2520
caccacgtcg	acatgaccat	gattacgcca	agctatttag	gtgacactat	agaatactca	2580

agctatgcat caagcttqqt accqaqctcq qatccactaq taacqqccqc caqtqtqctq 2640 gaattetgea gatateeate acaetggegg cegetegage atgeatetag agggeecaat 2700 tegecetata gtgagtegta ttacaattea etggeegteg ttttacaaeg tegtgaetgg 2760 gaaaaccctg gcgttaccca acttaatcgc cttgcagcac atcccccttt cgccaqctqq 2820 cgtaatagcg aagaggcccg caccgatcgc ccttcccaac agttgcgcag cctgaatggc 2880 gaatgggacg cgccctgtag cggcgcatta agcgcggcgg gtgtggtggt tacgcgcagc 2940 gtgaccgcta cacttgccag cqccctaqcq cccqctcctt tcqctttctt cccttccttt 3000 ctcgccacgt tcgccggctt tccccgtcaa gctctaaatc gggggctccc tttagggttc 3060 cgatttagag ctttacggca cctcgaccgc aaaaaacttg atttgggtga tggttcacgt 3120 agtgggccat cgccc 3135

<210> 2778

<211> 1045

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2778

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr

Arg	Leu	Glu 115	Val	Pro	Gly	Tyr	Glu 120	Ala	Asp	Asp	Val	Leu 125	Ala	Thr	Leu
Ala	Lys 130	Lys	Ala	Glu	Lys	Glu 135	Gly	Tyr	Glu	Val	Arg 140	Ile	Leu	Thr	Ala
Asp 145	Arg	Asp	Leu	Tyr	Gln 150	Leu	Val	Ser	Asp	Arg 155	Val	Ala	Val	Leu	His 160
Pro	Glu	Gly	His	Leu 165	Ile	Thr	Pro	Glu	Trp 170	Leu	Trp	Glu	Lys	Tyr 175	Gly
Leu	Arg	Pro	Glu 180	Gln	Trp	Val	Asp	Phe 185	Arg	Ala	Leu	Val	Gly 190	Asp	Pro
Ser	Asp	Asn 195	Leu	Pro	Gly	Val	Lys 200	Gly	Ile	Gly	Glu	Lýs 205	Thr	Ala	Leu
Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val

Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Gly 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Lys	Lys	Thr 510	Lys	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
Pro	Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp

Ala	610	Val	Ala	Бец	Asp	615	261	GIII	116	GIU	620	Arg	vai	цец	AIC
His 625	Leu	Ser	Gly	Asp	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Lys 640
Asp	Ile	His	Thr	Gln 645	Thr	Ala	Ser	Trp	Met 650	Phe	Gly	Val	Pro	Pro 655	Glu
Ala	Val	Asp	Pro 660	Leu	Met	Arg	Arg	Ala 665	Ala	Lys	Thr	Val	Asn 670	Phe	Gly
Val	Leu	Tyr 675	Gly	Met	Ser	Ala	His 680	Arg	Leu	Ser	Gln	Glu 685	Leu	Ala	Ile
Pro	Tyr 690	Glu	Glu	Ala	Val	Ala 695	Phe	Ile	Glu	Arg	Tyr 700	Phe	Gln	Ser	Ph∈
Pro 705	Lys	Val	Arg	Ala	Trp 710	Ile	Glu	Lys	Thr	Leu 715	Glu	Glu	Gly	Arg	Lys 720
Arg	Gly	Tyr	Val	Glu 725	Thr	Leu	Phe	Gly	Arg 730	Arg	Arg	Tyr	Val	Pro 735	Asp
Leu	Asn	Ala	Arg 740	Val	Lys	Ser	Val	Arg 745	Glu	Ala	Ala	Glu	Arg 750	Met	Ala
Phe	Asn	Met 755	Pro	Val	Gln	Gly	Thr 760	Ala	Ala	Asp	Leu	Met 765	Lys	Leu	Ala
Met	Val 770	Lys	Leu	Phe	Pro	Arg 775	Leu	Arg	Glu	Met	Gly 780	Ala	Arg	Met	Leu
Leu 785	Gln	Val	Ala	Asn	Glu 790	Leu	Leu	Leu	Glu	Ala 795	Pro	Gln	Ala	Arg	Ala 800
Glu	Glu	Val	Ala	Ala 805	Leu	Ala	Lys	Glu	Ala 810	Met	Glu	Lys	Ala	Tyr 815	Pro
Leu	Ala	Val	Pro 820	Leu	Glu	Val	Glu	Val 825	Gly	Met	Gly	Glu	Asp 830	Trp	Leu
Ser	Ala	Lys 835	Gly	His	His	His	His 840	His	His	Val	Asp	Met 845	Thr	Met	Ile
Thr	Pro	Ser	Tyr	Leu	Gly	Asp	Thr	Ile	Glu	Tyr	Ser	Ser	Tyr	Ala	Ser

850 855 860

Ser Leu Val Pro Ser Ser Asp Pro Leu Val Thr Ala Ala Ser Val Leu 865 870 875 880

Glu Phe Cys Arg Tyr Pro Ser His Trp Arg Pro Leu Glu His Ala Ser 885 890 895

Arg Gly Pro Asn Ser Pro Tyr Ser Glu Ser Tyr Tyr Asn Ser Leu Ala 900 905 910

Val Val Leu Gln Arg Arg Asp Trp Glu Asn Pro Gly Val Thr Gln Leu 915 920 925

Asn Arg Leu Ala Ala His Pro Pro Phe Ala Ser Trp Arg Asn Ser Glu 930 935 940

Glu Ala Arg Thr Asp Arg Pro Ser Gln Gln Leu Arg Ser Leu Asn Gly 945 950 955 960

Glu Trp Asp Ala Pro Cys Ser Gly Ala Leu Ser Ala Ala Gly Val Val 965 970 975

Val Thr Arg Ser Val Thr Ala Thr Leu Ala Ser Ala Leu Ala Pro Ala 980 985 990

Pro Phe Ala Phe Phe Pro Ser Phe Leu Ala Thr Phe Ala Gly Phe Pro 995 1000 1005

Arg Gln Ala Leu Asn Arg Gly Leu Pro Leu Gly Phe Arg Phe Arg 1010 1020

Ala Leu Arg His Leu Asp Arg Lys Lys Leu Asp Leu Gly Asp Gly 1025 1030 1035

Ser Arg Ser Gly Pro Ser Pro 1040 1045

<210> 2779

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> atgaattegg ggatgetgee cetetttgag cecaagggee gggteeteet ggtggaegge 60 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 aaggagetgg tggaeeteet ggggtteaeg egeetegagg teeegggeta egaggeggae 360 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 acegeegaca aagacettta eeageteett teegacegea teeaegteet eeaceeegag 480 gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540 geegaetace gggeeetgae eggggaegag teegaeaace tteeeggggt caagggeate 600 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 aageteteet gggaeetgge caaggtgege acegaeetge eeetggaggt ggaettegee 780 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 agecteetee aegagttegg cettetggaa ageceeaagg ceetggagga ggeeeeetgg 900 cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960 gatettetgg ceetggeege egecagggge ggeegegtge acegggeage agacecettg 1020 gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140 ctgggcccct cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200 gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260 ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320 gtcctggccc atatggaggc caccggggta cggctggacg tggcctacct tcaggccctt 1380 tccctggagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440 caccccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500 ettecegeet tgaagaagae gaagaagaea ggeaageget eeaceagege egeggtgetg 1560 gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620 aagctcaaga acacctacgt ggaccccctc ccaagcctcg tccacccgag gacgggccgc 1680 ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740 aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcgtg 1800

gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccqcqtcctc 1860 gcccacctct ccggggacga aaacctgatc agggtcttcc aggaggggaa ggacatccac 1920 acccagaccg caagetggat gttcggcgtc cccccggagg ccqtggaccc cctqatqcqc 1980 cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgccca taggctctcc 2040 caggagettg ccateceeta egaggaggeg gtggeettta tagagegeta ettecaaage 2100 ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160 gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacqcccq qqtqaaqaqc 2220 gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280 ctcatgaagc tcgccatggt gaagctcttc ccccgcctcc gggagatggg ggcccgcatg 2340 ctectecagg tegecaacga getectectg gaggeceee aagegeggge egaggaggt 2400 geggetttgg ccaaggagge catggagaag gectateece tegeegtgee eetggaggtg 2460 gaggtgggga tgggggagga ctggctttcc gccaagggtc accaccacca ccaccac 2517

<210> 2780

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2780

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln

Leu	Ala	Leu	Ile 100	Lys	Glu	Leu	Val	Asp 105	Leu	Leu	Gly	Phe	Thr 110	Arg	Lev
Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala

Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465	Glu	Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Ala	Leu	Lys 505	Lys	Thr	Lys	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	His	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Asn
Thr 545	Tyr	Val	Asp	Pro	Leu 550	Pro	Ser	Leu	Val	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly

Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 760 Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys

Gly His His His His His

<210> 2781

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2781

Met Asn Ser Thr Pro Leu Phe Asp Leu Glu Glu Pro Pro Lys Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Tyr Ala Leu 20 25 30

Ser Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Met Val Tyr Gly Phe 35 40 45

Ala Arg Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Gln Ala Val Val 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Glu 65 70 75 80

Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Val Lys Arg Leu Val Asp Leu Leu Gly Phe Thr Arg Leu 100 105 110

Glu Ala Pro Gly Tyr Glu Ala Asp Asp Val Leu Gly Thr Leu Ala Lys 115 120 125

Lys Ala Glu Arg Glu Gly Met Glu Val Arg Ile Leu Thr Gly Asp Arg 130 135 140

Asp Phe Phe Gln Leu Leu Ser Glu Lys Val Ser Val Leu Leu Pro Asp 145 150 155 160

Gly Thr Leu Val Thr Pro Lys Asp Val Gln Glu Lys Tyr Gly Val Pro 165 170 175 Pro Glu Arg Trp Val Asp Phe Arg Ala Leu Thr Gly Asp Arg Ser Asp Asn Ile Pro Gly Val Ala Gly Ile Gly Glu Lys Thr Ala Leu Arg Leu Leu Ala Glu Trp Gly Ser Val Glu Asn Leu Leu Lys Asn Leu Asp Arg 210 Val Lys Pro Asp Ser Leu Arg Arg Lys Ile Glu Ala His Leu Glu Asp 225 235 Leu His Leu Ser Leu Asp Leu Ala Arg Ile Arg Thr Asp Leu Pro Leu Glu Val Asp Phe Lys Ala Leu Arg Arg Arg Thr Pro Asp Leu Glu Gly Leu Arg Ala Phe Leu Glu Glu Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu Gly Gly Glu Lys Pro Arg Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Phe Leu Leu Ser Arg Lys Glu Pro 315 Met Trp Ala Glu Leu Leu Ala Leu Ala Ala Ser Gly Gly Arg Val His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val 345 Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly 355 Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu 370 Gly Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly 385 390 Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu Leu Lys Arg Leu Glu Glu Glu Lys Leu Leu Trp 420 425 430

Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met 435 Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg 490 Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu 515 520 Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys 530 Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg 545 560 Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly 565 570 Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 600 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp 725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835 840

<210> 2782

<211> 838

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2782

Met Asn Ser Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val 1 5 10 15

Asp	GIY	HIS	H1S 20	Leu	Ala	Tyr	Arg	Thr 25	Phe	Phe	Ala	Leu	30	Gly	Leu
Thr	Thr	Ser 35	Arg	Gly	Glu	Pro	Val 40	Gln	Ala	Val	Tyr	Gly 45	Phe	Ala	Lys
Ser	Leu 50	Leu	Lys	Ala	Leu	Arg 55	Glu	Asp	Gly	Asp	Val 60	Val	Ile	Val	Val
Phe 65	Asp	Ala	Lys	Ala	Pro 70	Ser	Phe	Arg	His	Gln 75	Thr	Tyr	Glu	Ala	Tyr 80
Lys	Ala	Gly	Arg	Ala 85	Pro	Thr	Pro	Glu	Asp 90	Phe	Pro	Arg	Gln	Leu 95	Ala
Leu	Ile	Lys	Glu 100	Met	Val	Asp	Leu	Leu 105	Gly	Phe	Thr	Arg	Leu 110	Glu	Val
Pro	Gly	Phe 115	Glu	Ala	Asp	Asp	Val 120	Leu	Ala	Thr	Leu	Ala 125	Lys	Lys	Ala
Glu	Lys 130	Glu	Gly	Tyr	Glu	Val 135	Arg	Ile	Leu	Thr	Ala 140	Asp	Arg	Asp	Leu
Tyr 145	Gln	Leu	Leu	Ser	Glu 150	Arg	Ile	Ser	Ile	Leu 155	His	Pro	Glu	Gly	Tyr 160
Leu	Ile	Thr	Pro	Glu 165	Trp	Leu	Trp	Glu	Lys 170	Tyr	Gly	Leu	Lys	Pro 175	Ser
Gln	Trp	Val	Asp 180	Tyr	Arg	Ala	Leu	Ala 185	Gly	Asp	Pro	Ser	Asp 190	Asn	Ile
Pro	Gly	Val 195	Lys	Gly	Ile	Gly	Glu 200	Lys	Thr	Ala	Ala	Lys 205	Leu	Ile	Arg
Glu	Trp 210	Gly	Ser	Leu	Glu	Asn 215	Leu	Leu	Lys	His	Leu 220	Glu	Gln	Val	Lys
Pro 225	Ala	Ser	Val	Arg	Glu 230	Lys	Ile	Leu	Ser	His 235	Met	Glu	Asp	Leu	Lys 240
Leu	Ser	Leu	Glu	Leu 245	Ser	Arg	Val	His	Thr 250	Asp	Leu	Leu	Leu	Gln 255	Val
Asp	Phe	Ala	Arg 260	Arg	Arg	Glu	Pro	Asp	Arg	Glu	Gly	Leu	Lys	Ala	Phe

Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu Glu Ser Pro Val Ala Ala Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Tyr Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu Leu Asn Ala Leu Ala Ala Ala Trp Gly Gly Arg Val His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu Val 355 360 365 Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Gly Pro Ser Asn 370 375 Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu 385 390 Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu 405 410 Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr Gly 435 Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp 490 Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile

Val	Glu 530	Lys	Ile	Leu	Gln	His 535	Arg	Glu	Leu	Thr	Lys 540	Leu	Lys	Asn	Thr
Tyr 545	Val	Asp	Pro	Leu	Pro 550	Ser	Leu	Val	His	Pro 555	Arg	Thr	Gly	Arg	Leu 560
His	Thr	Arg	Phe	Asn 565	Gln	Thr	Ala	Thr	Ala 570	Thr	Gly	Arg	Leu	Ser 575	Ser
Ser	Asp	Pro	Asn 580	Leu	Gln	Asn	Ile	Pro 585	Val	Arg	Thr	Pro	Leu 590	Gly	Gln
Arg	Ile	Arg 595	Arg	Ala	Phe	Val	Ala 600	Glu	Ala	Gly	Trp	Ala 605	Leu	Val	Ala
Leu	Asp 610	Tyr	Ser	Gln	Ile	Glu 615	Leu	Arg	Val	Leu	Ala 620	His	Leu	Ser	Gly
Asp 625	Glu	Asn	Leu	Ile	Arg 630	Val	Phe	Gln	Glu	Gly 635	Lys	Asp	Ile	His	Thr 640
Gln	Thr	Ala	Ser	Trp 645	Met	Phe	Gly	Val	Pro 650	Pro	Glu	Ala	Val	Asp 655	Pro
Leu	Met	Arg	Arg 660	Ala	Ala	Lys	Thr	Val 665	Asn	Phe	Gly	Val	Leu 670	Tyr	Gly
Met	Ser	Ala 675	His	Arg	Leu	Ser	Gln 680	Glu	Leu	Ala	Ile	Pro 685	Tyr	Glu	Glu
Ala	Val 690	Ala	Phe	Ile	Glu	Arg 695	Tyr	Phe	Gln	Ser	Phe 700	Pro	Lys	Val	Arg
Ala 705	Trp	Ile	Glu	Lys	Thr 710	Leu	Glu	Glu	Gly	Arg 715	Lys	Arg	Gly	Tyr	Val 720
Glu	Thr	Leu	Phe	Gly 725	Arg	Arg	Arg	Tyr	Val 730	Pro	Asp	Leu	Asn	Ala 735	Arg
Val	Lys	Ser	Val 740	Arg	Glu	Ala	Ala	Glu 745	Arg	Met	Ala	Phe	Asn 750	Met	Pro
Val	Gln	Gly 755	Thr	Ala	Ala	Asp	Leu 760	Met	Lys	Leu	Ala	Met 765	Val	Ļys	Leu

Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala 770 780

Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala 785 790 795 800

Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro 805 810 815

Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly 820 825 830

His His His His His 835

<210> 2783

<211> 842

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2783

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 105 110

Arg	Leu	Glu 115	Val	Pro	Gly	Tyr	Glu 120	Ala	Asp	Asp	Val	Leu 125	Ala	Thr	Leu
Ala	Lys 130	Lys	Ala	Glu	Lys	Glu 135	Gly	Tyr	Glu	Val	Arg 140	Ile	Leu	Thr	Ala
Asp 145	Arg	Asp	Leu	Tyr	Gln 150	Leu	Val	Ser	Asp	Arg 155	Val	Ala	Val	Leu	His 160
Pro	Glu	Gly	His	Leu 165	Ile	Thr	Pro	Glu	Trp 170	Leu	Trp	Glu	Lys	Tyr 175	Gly
Leu	Arg	Pro	Glu 180	Gln	Trp	Val	Asp	Phe 185	Arg	Ala	Leu	Val	Gly 190	Asp	Pro
Ser	Asp	Asn 195	Leu	Pro	Gly	Val	Lys 200	Gly	Ile	Gly	Glu	Lys 205	Thr	Ala	Leu
Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His		λla	Δla	Asp	Pro	Leu	Ala	Gly	Leu	Lys	Asp	Leu	Lys	Glu	Val
	Arg	AIG	340					345		-			350		

Le	u Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
G1 38	y Pro 5	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Gl	u Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
Hi	s Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Le	u Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Gl	u Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Le 46	u Glu 5	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Le	u Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Va	l Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Lys	Lys	Thr 510	Lys	Lys
Th	r Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Al	a His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Le 54	u Lys 5	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Th	r Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Ar	g Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
Pr	o Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 630 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 710 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800 Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 815 Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825

<210> 2784

Ser Ala Lys Gly His His His His His

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2784 atgaattegg ggatgetgee eetetttgag eecaagggee gggteeteet ggtggaegge 60 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggag 120 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 gacgcggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg 240 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 aaggagetgg tggaceteet ggggetggeg egeetegagg teeegggeta egaggeggae 360 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480 gggtacetea teaceeegge etggetttgg gaaaagtaeg geetgaggee egaceagtgg 540 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 aageteteet gggaeetgge caaggtgege aeegaeetge eeetggaggt ggaettegee 780 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 agcetectee aegagttegg cettetggaa agececaagg ceetggagga ggeeceetgg 900 ecceggegg aaggggeett egtgggettt gtgettteee geaaggagee catgtgggee 960 gatettetgg ceetggeege egecagggge ggeegegtge acegggeage agacecettg 1020 geggggetaa aggaeeteaa ggaggteegg ggeeteeteg eeaaggaeet egeegtettg 1080 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140 ctgggcccct cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200 gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260 ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320 gtcctggccc atatggaggc caccggggta cggctggacg tggcctacct tcaggccctt 1380 tecetggage ttgeggagga gateegeege etegaggagg aggtetteeg ettggeggge 1440 cacccettca acctcaacte cegggaceag etggaaaggg tgetetttga egagettagg 1500

1560 cttcccqcct tgaagaagac gaagaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1620 gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1680 aageteaaga acacetaegt ggaceceete ecaageeteg tecaceegag gaegggeege 1740 ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1800 aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcgtg gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860 1920 gcccacctct ccggggacga aaacctgatc agggtcttcc aggaggggaa ggacatccac 1980 acccagaceg caagetggat gtteggegte ceeeeggagg cegtggaeee cetgatgege 2040 egggeggeea agaeggtgaa etteggegte etetaeggea tgteegeeea taggetetee 2100 caggagettg ccateceeta egaggaggeg gtggeettta tagagegeta ettecaaage 2160 ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacgcccg ggtgaagagc 2220 2280 gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgccgac ctcatgaagc tegecatggt gaagetette eccegeetee gggagatggg ggeeegeatg 2340 ctcctccagg tcgccaacga gctcctcctg gaggcccccc aagcgcgggc cgaggaggtg 2400 2460 geggetttgg ccaaggagge catggagaag geetateeee tegeegtgee eetggaggtg gaggtgggga tgggggagga ctggctttcc gccaagggtc accaccacca ccaccac 2517

<210> 2785

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2785

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu

5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala	Lys 50	Ser	Leu	Leu	Lys	Ala 55	Leu	Lys	Glu	Asp	Gly 60	Asp	Ala	Val	Ile
Val 65	Val	Phe	Asp	Ala	Glu 70	Ala	Pro	Ser	Phe	Arg 75	His	Glu	Ala	Tyr	Gly 80
Gly	Tyr	Lys	Ala	Gly 85	Arg	Ala	Pro	Thr	Pro 90	Glu	Asp	Phe	Pro	Arg 95	Gln
Leu	Ala	Leu	Ile 100	Lys	Glu	Leu	Val	Asp 105	Leu	Leu	Gly	Leu	Ala 110	Arg	Leu
Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp	Pro	Pro	Pro	Glu

305	Ala	Phe	Val	GIA	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465	Glu	Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Ala	Leu	Lys 505	Lys	Thr	Lys	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	His	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Asn
Thr	Tyr	Val	Asp	Pro	Leu	Pro	Ser	Leu	Val	His	Pro	Arg	Thr	Gly	Arg

Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser 565 570 575

Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly 580 585 590

Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val 595 600 605

Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser 610 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His 625 630 635

Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp
645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr 660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 685

Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Asn Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 . 760 . 765

Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 775 780

Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val 785 790 795 800 Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Gly His His His His His 835

<210> 2786

<211> 2526

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2786

atgaattcca ccccactttt tgacctggag gaacccccca agegggtgct tctggtggac 60 ggccaccacc tggcctaccg caccttctat gccctgagcc tcaccacctc ccggggggag 120 ceggtgcaga tggtctaegg cttcgcccgg agcctcctca aggccttgaa ggaggaegga 180 caggeggtgg tegtggtett tgacgeegag geceeteet teegeeacga ggeetaegag 240 gcctacaagg cgggccgggc ccccaccccg gaggacttcc cccgccagct cgccttggtc 300 aageggetgg tggaeettet gggeetggte egeetegagg eeeeggggta egaggeggae 360 gacgtcctgg gcaccctggc caagaaggcc gaaagggagg ggatggaggt gcgcatcctc 420 acgggagacc gggacttctt ccagctcctc tccgagaagg tctcggtcct cctgccggac 480 gggaccctgg tcaccccaaa ggacgtccag gagaagtacg gggtgccccc ggagcgctgg 540 gtggacttcc gcgccctcac gggggaccgc tcggacaaca tccccggggt ggcggggata 600 ggggagaaga ccgcccttcg actcctcgca gagtggggga gcgtggaaaa cctcctgaag 660 720 aacctggacc gggtaaagcc ggactcgctc cggcgcaaga tagaggcgca cctcgaggac ctccacctct ccttagacct ggcccgcatc cgcaccgacc tccccctgga ggtggacttt 780 aaggccctgc gccgcaggac ccccgacctg gagggcctga gggccttttt ggaggagctg 840 gagtteggaa geeteeteea egagttegge eteetgggag gggagaagee eegggaggag 900 gccccctggc ccccgcccga aggggccttc gtgggcttcc tcctttcccg caaggagccc 960 atgtgggcgg agettetgge eetggeggeg geetegggeg geegegtgea eegggeagea 1020 gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080

gccgtcttgg	cctcgaggga	ggggctagac	ctcgtgcccg	gggacgaccc	catgctcctc	1140
gcctacctcc	tggtcccctc	gaacaccacc	cccgaggggg	tggcgcggcg	ctacgggggg	1200
gagtggacgg	aggacgccgc	ccaccgggcc	ctcctctcgg	agaggctcca	tcggaacctc	1260
cttaagcgcc	tcgaggggga	gġagaagctc	ctttggctct	accacgaggt	ggaaaagccc	1320
ctctcccggg	tcctggccca	tatggaggcc	accggggtac	ggctggacgt	ggcctacctt	1380
caggcccttt	ccctggagct	tgcggaggag	atccgccgcc	tcgaggagga	ggtcttccgc	1440
ttggcgggcc	accccttcaa	cctcaactcc	cgggaccagc	tggaaagggt	gctctttgac	1500
gagcttaggc	ttcccgcctt	gaagaagacg	aagaagacag	gcaagcgctc	caccagcgcc	1560
gcggtgctgg	aggccctacg	ggaggcccac	cccatcgtgg	agaagatcct	ccagcaccgg	1620
gagctcacca	agctcaagaa	cacctacgtg	gaccccctcc	caagcctcgt	ccacccgagg	1680
acgggccgcc	tccacacccg	cttcaaccag	acggccacgg	ccacggggag	gcttagtagc	1740
tccgacccca	acctgcagaa	catccccgtc	cgcaccccct	tgggccagag	gatccgccgg	1800
gccttcgtgg	ccgaggcggg	ttgggcgttg	gtggccctgg	actatagcca	gatagagctc	1860
cgcgtcctcg	cccacctctc	cggggacgaa	aacctgatca	gggtcttcca	ggaggggaag	1920
gacatccaca	cccagaccgc	aagctggatg	ttcggcgtcc	ccccggaggc	cgtggacccc	1980
ctgatgcgcc	gggcggccaa	gacggtgaac	ttcggcgtcc	tctacggcat	gtccgcccat	2040
aggetetece	aggagcttgc	catcccctac	gaggaggcgg	tggcctttat	agagcgctac	2100
ttccaaagct	tccccaaggt	gcgggcctgg	atagaaaaga	ccctggagga	ggggaggaag	2160
cggggctacg	tggaaaccct	cttcggaaga	aggcgctacg	tgcccgacct	caacgcccgg	2220
gtgaagagcg	tcagggaggc	cgcggagcgc	atggccttca	acatgcccgt	ccagggcacc	2280
gccgccgacc	tcatgaagct	cgccatggtg	aagctcttcc	cccgcctccg	ggagatgggg	2340
gcccgcatgc	tcctccaggt	cgccaacgag	ctcctcctgg	aggcccccca	agcgcgggcc	2400
gaggaggtgg	cggctttggc	caaggaggcc	atggagaagg	cctatcccct	cgccgtgccc	2460
ctggaggtgg	aggtggggat	gggggaggac	tggctttccg	ccaagggtca	ccaccaccac	2520
caccac						2526

<210> 2787

<211> 842

<212> PRT

<213> Artificial Sequence

<223> Synthetic

<400> 2787

Met Asn Ser Thr Pro Leu Phe Asp Leu Glu Glu Pro Pro Lys Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Tyr Ala Leu 20 25 30

Ser Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Met Val Tyr Gly Phe 35 40 45

Ala Arg Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Gln Ala Val Val 50 60

Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr Glu 65 70 75 80

Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Val Lys Arg Leu Val Asp Leu Leu Gly Leu Val Arg Leu 100 105 110

Glu Ala Pro Gly Tyr Glu Ala Asp Asp Val Leu Gly Thr Leu Ala Lys 115 120 125

Lys Ala Glu Arg Glu Gly Met Glu Val Arg Ile Leu Thr Gly Asp Arg 130 135 140

Asp Phe Phe Gln Leu Leu Ser Glu Lys Val Ser Val Leu Leu Pro Asp 145 150 155 160

Gly Thr Leu Val Thr Pro Lys Asp Val Gln Glu Lys Tyr Gly Val Pro 165 170 175

Pro Glu Arg Trp Val Asp Phe Arg Ala Leu Thr Gly Asp Arg Ser Asp 180 185 190

Asn Ile Pro Gly Val Ala Gly Ile Gly Glu Lys Thr Ala Leu Arg Leu
195 200 205

Leu Ala Glu Trp Gly Ser Val Glu Asn Leu Leu Lys Asn Leu Asp Arg 210 215 220

Val Lys Pro Asp Ser Leu Arg Arg Lys Ile Glu Ala His Leu Glu Asp 225 230 235 240

I	eu	His	Leu	Ser	Leu 245	Asp	Leu	Ala	Arg	11e 250	Arg	Thr	Asp	Leu	255	Leu
G	lu	Val	Asp	Phe 260	Lys	Ala	Leu	Arg	Arg 265	Arg	Thr	Pro	Asp	Leu 270	Glu	Gly
Ι	eu	Arg	Ala 275	Phe	Leu	Glu	Glu	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
F	he	Gly 290	Leu	Leu	Gly	Gly	Glu 295	Lys	Pro	Arg	Glu	Glu 300	Ala	Pro	Trp	Pro
	Pro 805	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Leu	Leu 315	Ser	Arg	Lys	Glu	Pro 320
N	let	Trp	Ala	Glu	Leu 325	Leu	Ala	Leu	Ala	Ala 330	Ala	Ser	Gly	Gly	Arg 335	Val
F	lis	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
I	Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
I	Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
	31y 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
(3lu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
Ι	His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
]	Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
(Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
	Leu 465		Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
]	Leu	Ala	Gly	His	Pro	Phe	Asn	Leu	Asn	Ser	Arg	Asp	Gln	Leu	Glu	Arg

7	/al	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Lys	Lуs	510	гуs	гàг
7	Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
7	Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
	Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
:	Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
1	Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
]	Pro	Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp
1	Ala	Leu 610	Val	Ala	Leu	Asp	Tyr 615	Ser	Gln	Ile	Glu	Leu 620	Arg	Val	Leu	Ala
	His 625	Leu	Ser	Gly	Asp	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Lys 640
	Asp	Ile	His	Thr	Gln 645	Thr	Ala	Ser	Trp	Met 650	Phe	Gly	Val	Pro	Pro 655	Glu
	Ala	Val	Asp	Pro 660	Leu	Met	Arg	Arg	Ala 665	Ala	Lys	Thr	Val	Asn 670	Phe	Gly
i	Val	Leu	Tyr 675	Gly	Met	Ser	Ala	His 680	Arg	Leu	Ser	Gln	Glu 685	Leu	Ala	Ile
	Pro	Tyr 690	Glu	Glu	Ala	Val	Ala 695	Phe	Ile	Glu	Arg	Tyr 700	Phe	Gln	Ser	Phe
	Pro 705	Lys	Val	Arg	Ala	Trp 710	Ile	Glu	Lys	Thr	Leu 715	Glu	Glu	Gly	Arg	Lys 720
	Arg	Gly	Tyr	Val	Glu 725		Leu	Phe	Gly	Arg 730		Arg	Tyr	Val	Pro 735	Asp

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 Ser Ala Lys Gly His His His His His His <210> 2788 <211> 2514 <212> DNA <213> Artificial Sequence <220> <223> Synthetic <400> atgaattccc tgcccctctt tgagcccaag ggccgggtgc ttctggtgga cggccaccac 60 ctggcctacc gtaccttttt tgccctgaag ggcctcacca ccagccgcgg ggagccggtc 120 caggcggtgt acgggtttgc caagagcctt ttgaaggcgc taagggaaga cggggatgtg 180 gtgategtgg tetttgaege egaggeeece teetteegee accagaceta egaggeetae 240 aaggegggge gggeteeeac eeeegaggae ttteeeegge agettgeeet tateaaggag 300 atggtggacc ttttgggcct ggagcgcctc gaggtgccgg gctttgaagc ggatgacgtc 360 ctggctaccc tggccaagaa ggcggaaaag gaaggctacg aagtgcgcat cctcaccgcg 420 gaccgggacc tttaccagct tctttcggag cgaatctcca tccttcaccc ggagggttac 480 ctgatcaccc cggagtggct ttgggagaag tatgggctta agccttccca gtgggtggac 540

600

taccgggcct tggccgggga cccttccgac aacatccccg gcgtgaaggg catcggggag

660 aagacggcgg ccaagctgat ccgggagtgg ggaagcctgg aaaaccttct taagcacctg 720 gaacaggtga aacctgcctc cgtgcgggag aagatcctta gccacatgga ggacctcaag ctatecetgg agetateceg ggtgcaeaeg gaettgetee tteaggtgga ettegeeegg 780 840 cgccgggagc cggaccggga ggggcttaag gcctttttgg agaggctgga gttcggaagc 900 ctcctccacg agttcggcct gttggaaagc ccggtggcgg cggaggaagc tccctggccg cccccgagg gagccttcgt ggggtacgtt ctttcccgcc ccgagcccat gtgggcggag 960 cttaacgcct tggccgccgc ctggggcggc cgcgtgcacc gggcagcaga ccccttggcg 1020 1080 gggctaaagg acctcaagga ggtccggggc ctcctcgcca aggacctcgc cgtcttggcc tcgagggagg ggctagacct cgtgcccggg gacgacccca tgctcctcgc ctacctcctg 1140 1200 ggcccctcga acaccacccc cgagggggtg gcgcggcgct acggggggga gtggacggag gacgccgccc accgggccct cctctcggag aggctccatc ggaacctcct taagcgcctc 1260 1320 gagggggagg agaagctcct ttggctctac cacgaggtgg aaaagcccct ctcccgggtc 1380 ctggcccata tggaggccac cggggtacgg ctggacgtgg cctaccttca ggccctttcc 1440 ctggagcttg cggaggagat ccgccgcctc gaggaggagg tcttccgctt ggcgggccac 1500 cccttcaacc tcaactcccg ggaccagctg gaaagggtgc tctttgacga gcttaggctt cccgccttga agaagacgaa gaagacaggc aagcgctcca ccagcgccgc ggtgctggag 1560 gccctacggg aggcccaccc catcgtggag aagatcctcc agcaccggga gctcaccaag 1620 ctcaagaaca cctacgtgga ccccctccca agcctcgtcc acccgaggac gggccgcctc 1680 cacacccgct tcaaccagac ggccacggcc acggggaggc ttagtagctc cgaccccaac 1740 1800 ctgcagaaca tccccgtccg caccccttg ggccagagga tccgccgggc cttcgtggcc 1860 gaggcgggtt gggcgttggt ggccctggac tatagccaga tagagctccg cgtcctcgcc cacctctccg gggacgaaaa cctgatcagg gtcttccagg aggggaagga catccacacc 1920 cagaccgcaa gctggatgtt cggcgtcccc ccggaggccg tggaccccct gatgcgccgg 1980 2040 gcggccaaga cggtgaactt cggcgtcctc tacggcatgt ccgcccatag gctctcccag gagcttgcca tcccctacga ggaggcggtg gcctttatag agcgctactt ccaaagcttc 2100 cccaaggtgc gggcctggat agaaaagacc ctggaggagg ggaggaagcg gggctacgtg 2160 2220 gaaaccctct tcggaagaag gcgctacgtg cccgacctca acgcccgggt gaagagcgtc 2280 agggaggccg cggagcgcat ggccttcaac atgcccgtcc agggcaccgc cgccgacctc 2340 atgaageteg ceatggtgaa getetteece egeeteeggg agatggggge eegeatgete 2400 ctccaggtcg ccaacgagct cctcctggag gccccccaag cgcgggccga ggaggtggcg gctttggcca aggaggccat ggagaaggcc tatcccctcg ccgtgcccct ggaggtggag 2460 <210> 2789

<211> 838

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2789

Met Asn Ser Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val 1 5 10 15

Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly Leu 20 25 30

Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys 35 40 45

Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Val Val Ile Val Val 50 55 60

Phe Asp Ala Glu Ala Pro Ser Phe Arg His Gln Thr Tyr Glu Ala Tyr 65 70 75 80

Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala 85 90 95

Leu Ile Lys Glu Met Val Asp Leu Leu Gly Leu Glu Arg Leu Glu Val

Pro Gly Phe Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala 115 120 125

Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Arg Asp Leu 130 135 140

Tyr Gln Leu Leu Ser Glu Arg Ile Ser Ile Leu His Pro Glu Gly Tyr 145 150 155 160

Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly Leu Lys Pro Ser 165 170 175

Gln	Trp	Val	Asp 180	Tyr	Arg	Ala	Leu	Ala 185	Gly	Asp	Pro	Ser	Asp 190	Asn	Ile
Pro	Gly	Val 195	Lys	Gly	Ile	Gly	Glu 200	Lys	Thr	Ala	Ala	Lys 205	Leu	Ile	Arg
Glu	Trp 210	Gly	Ser	Leu	Glu	Asn 215	Leu	Leu	Lys	His	Leu 220	Glu	Gln	Val	Lys
Pro 225	Ala	Ser	Val	Arg	Glu 230	Lys	Ile	Leu	Ser	His 235	Met	Glu	Asp	Leu	Lys 240
Leu	Ser	Leu	Glu	Leu 245	Ser	Arg	Val	His	Thr 250	Asp	Leu	Leu	Leu	Gln 255	Val
Asp	Phe	Ala	Arg 260	Arg	Arg	Glu	Pro	Asp 265	Arg	Glu	Gly	Leu	Lys 270	Ala	Phe
Leu	Glu	Arg 275	Leu	Glu	Phe	Gly	Ser 280	Leu	Leu	His	Glu	Phe 285	Gly	Leu	Leu
Glu	Ser 290	Pro	Val	Ala	Ala	Glu 295	Glu	Ala	Pro	Trp	Pro 300	Pro	Pro	Glu	Gly
Ala 305	Phe	Val	Gly	Tyr	Val 310	Leu	Ser	Arg	Pro	Glu 315	Pro	Met	Trp	Ala	Glu 320
Leu	Asn	Ala	Leu	Ala 325	Ala	Ala	Trp	Gly	Gly 330	Arg	Val	His	Arg	Ala 335	Ala
Asp	Pro	Leu	Ala 340	Gly	Leu	Lys	Asp	Leu 345	Lys	Glu	Val	Arg	Gly 350	Leu	Leu
Ala	Lys	Asp 355	Leu	Ala	Val	Leu	Ala 360	Ser	Arg	Glu	Gly	Leu 365	Asp	Leu	Val
Pro	Gly 370	Asp	Asp	Pro	Met	L eu 375	Leu	Ala	Tyr	Leu	Leu 380	Gly	Pro	Ser	Asn
Thr 385	Thr	Pro	Glu	Gly	Val 390	Ala	Arg	Arg	Tyr	Gly 395	Gly	Glu	Trp	Thr	Glu 400
Asp	Ala	Ala	His	Arg 405	Ala	Leu	Leu	Ser	Glu 410	Arg	Leu	His	Arg	Asn 415	Leu
Leu	Lys	Arg	Leu 420	Glu	Gly	Glu	Glu	Lys 425	Leu	Leu	Trp	Leu	Tyr 430	His	Glu

Val	Glu	Lys 435	Pro	Leu	Ser	Arg	Val 440	Leu	Ala	His	Met	Glu 445	Ala	Thr	Gly
Val	Arg 450	Leu	Asp	Val	Ala	Tyr 455	Leu	Gln	Ala	Leu	Ser 460	Leu	Glu	Leu	Ala
Glu 465	Glu	Ile	Arg	Arg	Leu 470	Glu	Glu	Glu	Val	Phe 475	Arg	Leu	Ala	Gly	His 480
Pro	Phe	Asn	Leu	Asn 485	Ser	Arg	Asp	Gln	Leu 490	Glu	Arg	Val	Leu	Phe 495	Asp
Glu	Leu	Arg	Leu 500	Pro	Ala	Leu	Lys	Lys 505	Thr	Lys	Lys	Thr	Gly 510	Lys	Arg
Ser	Thr	Ser 515	Ala	Ala	Val	Leu	Glu 520	Ala	Leu	Arg	Glu	Ala 525	His	Pro	Ile
Val	Glu 530	Lys	Ile	Leu	Gln	His 535	Arg	Glu	Leu	Thr	Lys 540	Leu	Lys	Asn	Thr
Tyr 545	Val	Asp	Pro	Leu	Pro 550	Ser	Leu	Val	His	Pro 555	Arg	Thr	Gly	Arg	Leu 560
His	Thr	Arg	Phe	Asn 565	Gln	Thr	Ala	Thr	Ala 570	Thr	Gly	Arg	Leu	Ser 575	Ser
Ser	Asp	Pro	Asn 580	Leu	Gln	Asn	Ile	Pro 585	Val	Arg	Thr	Pro	Leu 590	Gly	Gln
Arg	Ile	Arg 595	Arg	Ala	Phe	Val	Ala 600	Glu	Ala	Gly	Trp	Ala 605	Leu	Val	Ala
Leu	Asp 610	Tyr	Ser	Gln	Ile	Glu 615	Leu	Arg	Val	Leu	Ala 620	His	Leu	Ser	Gly
Asp 625	Glu	Asn	Leu	Ile	Arg 630	Val	Phe	Gln	Glu	Gly 635	Lys	Asp	Ile	His	Thr 640
Gln	Thr	Ala	Ser	Trp 645	Met	Phe	Gly	Val	Pro 650	Pro	Glu	Ala	Val	Asp 655	Pro
Leu	Met	Arg	Arg 660	Ala	Ala	Lys	Thr	Val 665		Phe	Gly	Val	Leu 670	Tyr	Gly
Met	Sar	ΔΙο	Hic	Δνα	יום.	Ser	Gln	Glu	T.e.ii	בו∆	Tle	Pro	Ttr	Glu	Glu

675 680 685

Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg 690 695 700

Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val 705 710 715 720

Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg 725 730 735

Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro
740 745 750

Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu 755 760 765

Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala 770 780

Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala 785 790 795 800

Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro 805 810 815

Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly 820 825 830

His His His His His His 835

<210> 2790

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2790

atgaattegg ggatgetgee cetetttgag eccaagggee gggteeteet ggtggaegge 60 caccacetgg cetacegeae ettecaegee etgaagggee teaecaega eegggggag 120

ceggtgcagg eggtetaegg ettegecaag ageeteetea aggeeeteaa ggaggaeggg 180 gacgcggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg 240 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 aaggagetgg tggaceteet ggggtteaeg egeetegagg teeegggeta egaggeggae 360 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 accgccgaca aagaccttta ccagctcctt tecgaccgca tccacgtcct ccaccccgag 480 gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540 gccgactace gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 aageteteet gggaeetgge caaggtgege acegaeetge eeetggaggt ggaettegee 780 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 agceteetee aegagttegg eettetggaa ageeecaagg eeetggagga ggeeeeetgg 900 eccegeegg aaggggeett egtgggettt gtgettteee geaaggagee catgtgggee 960 gatettetgg ceetggeege egeeagggge ggeegegtge acegggeage agacecettg 1020 gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140 etgggeeeet egaacaccae eecegagggg gtggegegge getaeggggg ggagtggaeg 1200 gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260 ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320 gtcctggccc atatggaggc caccggggta cggctggacg tggcctacct tcaggccctt 1380 tecetggage ttgeggagga gateegeege etegaggagg aggtetteeg ettggeggge 1440 caccccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500 cttcccgcct tgaagaagac gaagaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560 gaggeeetac gggaggeeea ceceategtg gagaagatee tecageaceg ggageteace 1620 aageteaaga acacetaegt ggaceceete ecaageeteg tecaecegag gaegggeege 1680 etecacacee getteaacea gaeggeeacg gecaegggga ggettagtag etecgaeece 1740 aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcgtg 1800 gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860 gcccacctct ccggggacga aaacctgatc agggtcttcc aggaggggaa ggacatccac 1920 acceagaceg caagetggat gtteggegte ceeeeggagg cegtggacee eetgatgege 1980

cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgccca taggctctcc 2040 caggagettg ccatececta egaggaggeg gtggeettta tagagegeta ettecaaage 2100 ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160 gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacgcccg ggtgaagagc 2220 gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280 ctcatgaagc tegecatggt gaagetette eeeegeetee gggagatggg ggeeegeatg 2340 ctcctccagg tcgccaacga gctcctcctg gaggcccccc aagcgcgggc cgaggaggtg 2400 gcggctttgg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggtg 2460 gaggtgggga tgggggagga ctggctttcc gccaagggtc accaccacca ccaccac 2517

<210> 2791

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2791

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu 100 105 110

Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu

Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465	Glu	Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Ala	Leu	Lys 505	Lys	Thr	Lys	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	His	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Asn
Thr 545	Tyr	Val	Asp	Pro	Leu 550	Pro	Ser	Leu	Val	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Val 600	Ala	Glu	Ala	Gly	Trp 605	Ala	Leu	Val
Ala	Leu	Asp	Tyr	Ser	Gln	Ile	Glu	Leu	Arg	Val	Leu	Ala	His	Leu	Ser

610 615 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His 625 635 635

Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp
645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr 660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 685

Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Asn Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val 785 790 795 800

Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Gly His His His His His 835

<210> 2792

<211> 2520

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2792 atgaattegg aggegatget geceetettt gageecaagg geegggteet eetggtggae 60 ggccaccacc tggcctaccg caccttccac gccctgaagg gcctcaccac cagccggggg 120 gagccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct caaggaggac 180 ggggacgcgg tgatcgtggt ctttgacgcc gaggccccct ccttccgcca cgaggcctac 240 ggggggtaca aggcgggccg ggcccccacg ccggaggact ttccccggca actcgccctc 300 atcaaggage tggtggacet cetggggtte acgegeeteg aggteeeggg etacgaggeg 360 gacgacgtcc tggccagcct ggccaagaag gcggaaaagg agggctacga ggtccgcatc 420 ctcaccgccg acaaagacct ttaccagctc ctttccgacc gcatccacgt cctccaccc 480 gaggggtacc tcatcacccc ggcctggctt tgggaaaagt acggcctgag gcccgaccag 540 tgggccgact accgggccct gaccggggac gagtccgaca accttcccgg ggtcaagggc 600 atcggggaga agacggcgag gaagcttctg gaggagtggg ggagcctgga agccctcctc 660 aagaacetgg aceggetgaa geeegeeate egggagaaga teetggeeea eatggaegat 720 etgaagetet eetgggaeet ggeeaaggtg egeaeegaee tgeeeetgga ggtggaette 780 gccaaaaggc gggagcccga ccgggagagg cttagggcct ttctggagag gcttgagttt 840 ggcagcctcc tccacgagtt cggccttctg gaaagcccca aggccctgga ggaggcccc 900 tggcccccgc cggaagggc cttcgtgggc tttgtgcttt cccgcaagga gcccatgtgg 960 gccgatette tggccetgge cgccgccagg ggcggccgcg tgcaccgggc agcagacccc 1020 ttggcggggc taaaggacct caaggaggtc cggggcctcc tcgccaagga cctcgccgtc 1080 ttggcctcga gggagggct agacctcgtg cccggggacg accccatgct cctcgcctac 1140 ctcctgggcc cctcgaacac caccccgag ggggtggcgc ggcgctacgg gggggagtgg 1200 acggaggacg ccgcccaccg ggccctcctc tcggagaggc tccatcggaa cctccttaag 1260 egeetegagg gggaggagaa geteetttgg etetaceaeg aggtggaaaa geeeetetee 1320 cgggtcctgg cccatatgga ggccaccggg gtacggctgg acgtggccta ccttcaggcc 1380 ctttccctgg agcttgcgga ggagatccgc cgcctcgagg aggaggtctt ccgcttggcg 1440 ggccacccct tcaacctcaa ctcccgggac cagctggaaa gggtgctctt tgacgagctt 1500

1560

aggetteeeg eettgaagaa gacgaagaag acaggeaage geteeaceag egeegeggtg

ctggaggccc tacgggaggc ccaccccatc gtggagaaga tcctccagca ccqqqaqctc 1620 accaagetea agaacaceta egtggacece eteccaagee tegtecacee gaggaeggge 1680 cgcctccaca cccgcttcaa ccagacggcc acggccacgg ggaggcttag tagctccgac 1740 cccaacctgc agaacatccc cgtccgcacc cccttgggcc agaggatccg ccgggccttc 1800 gtggccgagg cgggttgggc gttggtggcc ctggactata gccagataga gctccgcgtc 1860 ctcgcccacc tctccgggga cgaaaacctg atcagggtct tccaggaggg gaaggacatc 1920 cacacccaga ccgcaagctg gatgttcggc gtccccccgg aggccgtgga cccctgatg 1980 cgccgggcgg ccaagacggt gaacttcggc gtcctctacg gcatgtccgc ccataggctc 2040 teccaggage ttgccatece etacgaggag geggtggeet ttatagageg etacttecaa 2100 agcttcccca aggtgcgggc ctggatagaa aagaccctgg aggaggggag gaagcggggc 2160 tacgtggaaa ccctcttcgg aagaaggcgc tacgtgcccq acctcaacgc ccgqqtgaaq 2220 agcgtcaggg aggccgcgga gcgcatggcc ttcaacatgc ccgtccaggg caccgccgcc 2280 gacctcatga agctcgccat ggtgaagctc ttcccccgcc tccgggagat gggggcccgc 2340 atgetectee aggtegeeaa egageteete etggaggeee eecaagegeg ggeegaggag 2400 gtggcggctt tggccaagga ggccatggag aaggcctatc ccctcgccgt gcccctggag 2460 gtggaggtgg ggatgggga ggactggctt tccgccaagg gtcaccacca ccaccaccac 2520

<210> 2793

<211> 840

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2793

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val

Ile 65	Val	Val	Phe	Asp	Ala 70	Glu	Ala	Pro	Ser	Phe 75	Arg	His	Glu	Ala	Tyr 80
Gly	Gly	Tyr	Lys	Ala 85	Gly	Arg	Ala	Pro	Thr 90	Pro	Glu	Asp	Phe	Pro 95	Arg
Gln	Leu	Ala	Leu 100	Ile	Lys	Glu	Leu	Val 105	Asp	Leu	Leu	Gly	Phe 110	Thr	Arg
Leu	Glu	Val 115	Pro	Gly	Tyr	Glu	Ala 120	Asp	Asp	Val	Leu	Ala 125	Ser	Leu	Ala
Lys	Lys 130	Ala	Glu	Lys	Glu	Gly 135	Tyr	Glu	Val	Arg	Ile 140	Leu	Thr	Ala	Asp
Lys 145	Asp	Leu	Tyr	Gln	Leu 150	Leu	Ser	Asp	Arg	Ile 155	His	Val	Leu	His	Pro 160
Glu	Gly	Tyr	Leu	Ile 165	Thr	Pro	Ala	Trp	Leu 170	Trp	Glu	Lys	Tyr	Gly 175	Leu
Arg	Pro	Asp	Gln 180	Trp	Ala	Asp	Tyr	Arg 185	Ala	Leu	Thr	Gly	Asp 190	Glu	Ser
Asp	Asn	Leu 195	Pro	Gly	Val	Lys	Gly 200	Ile	Gly	Glu	Lys	Thr 205	Ala	Arg	Lys
Leu	Leu 210	Glu	Glu	Trp	Gly	Ser 215	Leu	Glu	Ala	Leu	Leu 220	Lys	Asn	Leu	Asp
Arg 225	Leu	Lys	Pro	Ala	Ile 230	Arg	Glu	Lys	Ile	Leu 235	Ala	His	Met	Asp	Asp 240
Leu	Lys	Leu	Ser	Trp 245	Asp	Leu	Ala	Lys	Val 250	Arg	Thr	Asp	Leu	Pro 255	Leu
Glu	Val	Asp	Phe 260	Ala	Lys	Arg	Arg	Glu 265	Pro	Asp	Arg	Glu	Arg 270	Leu	Arg
Ala	Phe	Leu 275	Glu	Arg	Leu	Glu	Phe 280	Gly	Ser	Leu	Leu	His 285	Glu	Phe	Gly
Leu	Leu 290	Glu	Ser	Pro	Lys	Ala 295	Leu	Glu	Glu	Ala	Pro 300	Trp	Pro	Pro	Pro

Glu 305	Gly	Ala	Phe	Val	Gly 310	Phe	Val	Leu	Ser	Arg 315	Lys	Glu	Pro	Met	Trp 320
Ala	Asp	Leu	Leu	Ala 325	Leu	Ala	Ala	Ala	Arg 330	Gly	Gly	Arg	Val	His 335	Arg
Ala	Ala	Asp	Pro 340	Leu	Ala	Gly	Leu	Lys 345	Asp	Leu	Lys	Glu	Val 350	Arg	Gly
Leu	Leu	Ala 355	Lys	Asp	Leu	Ala	Val 360	Leu	Ala	Ser	Arg	Glu 365	Gly	Leu	Asp
Leu	Val 370	Pro	Gly	Asp	Asp	Pro 375	Met	Leu	Leu	Ala	Tyr 380	Leu	Leu	Gly	Pro
Ser 385	Asn	Thr	Thr	Pro	Glu 390	Gly	Val	Ala	Arg	Arg 395	Tyr	Gly	Gly	Glu	Trp 400
Thr	Glu	Asp	Ala	Ala 405	His	Arg	Ala	Leu	Leu 410	Ser	Glu	Arg	Leu	His 415	Arg
Asn	Leu	Leu	Lys 420	Arg	Leu	Glu	Gly	Glu 425	Glu	Lys	Leu	Leu	Trp 430	Leu	Tyr
His	Glu	Val 435	Glu	Lys	Pro	Leu	Ser 440	Arg	Val	Leu	Ala	His 445	Met	Glu	Ala
Thr	Gly 450	Val	Arg	Leu	Asp	Val 455	Ala	Tyr	Leu	Gln	Ala 460	Leu	Ser	Leu	Glu
Leu 465	Ala	Glu	Glu	Ile	Arg 470	Arg	Leu	Glu	Glu	Glu 475	Val	Phe	Arg	Leu	Ala 480
Gly	His	Pro	Phe	Asn 485	Leu	Asn	Ser	Arg	Asp 490	Gln	Leu	Glu	Arg	Val 495	Leu
Phe	Asp	Glu	Leu 500	Arg	Leu	Pro	Ala	Leu 505	Lys	Lys	Thr	Lys	Lys 510	Thr	Gly
Lys	Arg	Ser 515	Thr	Ser	Ala	Ala	Val 520	Leu	Glu	Ala	Leu	Arg 525	Glu	Ala	His
Pro	Ile 530	Val	Glu	Lys	Ile	Leu 535	Gln	His	Arg	Glu	Leu 540	Thr	Lys	Leu	Lys
Asn 545	Thr	Tyr	Val	Asp	Pro 550	Leu	Pro	Ser	Leu	Val 555	His	Pro	Arg	Thr	Gly 560

Arg	Leu	His	Thr	Arg 565	Phe	Asn	Gln	Thr	A1a 570	Thr	Ala	Thr	Gly	Arg 575	Leu
Ser	Ser	Ser	Asp 580	Pro	Asn	Leu	Gln	Asn 585	Ile	Pro	Val	Arg	Thr 590	Pro	Leu
Gly	Gln	Arg 595	Ile	Arg	Arg	Ala	Phe 600	Val	Ala	Glu	Ala	Gly 605	Trp	Ala	Leu
Val	Ala 610	Leu	Asp	Tyr	Ser	Gln 615	Ile	Glu	Leu	Arg	Val 620	Leu	Ala	His	Leu
Ser 625	Gly	Asp	Glu	Asn	Leu 630	Ile	Arg	Val	Phe	Gln 635	Glu	Gly	Lys	Asp	Ile 640
His	Thr	Gln	Thr	Ala 645	Ser	Trp	Met	Phe	Gly 650	Val	Pro	Pro	Glu	Ala 655	Val
Asp	Pro	Leu	Met 660	Arg	Arg	Ala	Ala	Lys 665	Thr	Val	Asn	Phe	Gly 670	Val	Leu
Tyr	Gly	Met 675	Ser	Ala	His	Arg	Leu 680	Ser	Gln	Glu	Leu	Ala 685	Ile	Pro	Tyr
Glu	Glu 690	Ala	Val	Ala	Phe	Ile 695	Glu	Arg	Tyr	Phe	Gln 700	Ser	Phe	Pro	Lys
Val 705	Arg	Ala	Trp	Ile	Glu 710	Lys	Thr	Leu	Glu	Glu 715	Gly	Arg	Lys	Arg	Gly 720
Tyr	Val	Glu	Thr	Leu 725	Phe	Gly	Arg	Arg	Arg 730	Tyr	Val	Pro	Asp	Leu 735	Asn
Ala	Arg	Val	Lys 740	Ser	Val	Arg	Glu	Ala 745	Ala	Glu	Arg	Met	Ala 750	Phe	Asn
Met	Pro	Val 755	Gln	Gly	Thr	Ala	Ala 760	Asp	Leu	Met	Lys	Leu 765	Ala	Met	Val
Lys	Leu 770	Phe	Pro	Arg	Leu	Arg 775	Glu	Met	Gly	Ala	Arg 780	Met	Leu	Leu	Gln
Val 785	Ala	Asn	Glu	Leu	Leu 790	Leu	Glu	Ala	Pro	Gln 795	Ala	Arg	Ala	Glu	Glu 800
Val	Ala	Ala	Leu	Ala	Lys	Glu	Ala	Met	Glu	Lys	Ala	Tyr	Pro	Leu	Ala

Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala 820 825 830

Lys Gly His His His His His His 835 840

<210> 2794

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2794

atgaattegg ggatgetgee cetetttgag eecaagggee gggteeteet ggtggaegge 60 caccacctgg cctaccgcac cttctttgcc ctgaagggcc tcaccaccag ccgggggag 120 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 gacgcggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg 240 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 aaggagetgg tggaceteet ggggtteaeg egeetegagg teeegggeta egaggeggae 360 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480 gggtacetca teaceeegge etggetttgg gaaaagtaeg geetgaggee egaceagtgg 540 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 aageteteet gggaeetgge caaggtgege acegaeetge eeetggaggt ggaettegee 780 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 agecteetee aegagttegg cettetggaa ageceeaagg ceetggagga ggeeeeetgg 900 cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960 gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agaccccttg 1020 geggggetaa aggaeeteaa ggaggteegg ggeeteeteg ceaaggaeet egeegtettg 1080

```
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc
                                                                     1140
etgggeeeet egaacaceae eeeegagggg gtggegegge getaeggggg ggagtggaeg
                                                                     1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc
                                                                     1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg
                                                                    1320
gtcctggccc atatggaggc caccggggta cggctggacg tggcctacct tcaggccctt
                                                                     1380
tccctggagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc
                                                                    1440
caccccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg
                                                                    1500
ettecegeet tgaagaagae gaagaagaea ggeaageget ceaceagege egeggtgetg
                                                                     1560
gaggeeetae gggaggeeca eeceategtg gagaagatee tecageaceg ggageteace
                                                                     1620
aagctcaaga acacctacgt ggaccccctc ccaagcctcg tccacccgag gacgggccgc
                                                                     1680
ctccacacco gettcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc
                                                                     1740
aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcgtg
                                                                    1800
gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc
                                                                     1860
gcccacctct ccggggacga aaacctgatc agggtcttcc aggaggggaa ggacatccac
                                                                    1920
acccagaceg caagetggat gtteggegte ceeeeggagg cegtggacee cetgatgege
                                                                    1980
egggeggeea agaeggtgaa etteggegte etetaeggea tgteegeeea taggetetee
                                                                    2040
caggagettg ceateceeta egaggaggeg gtggeettta tagagegeta ettecaaage
                                                                    2100
ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac
                                                                    2160
gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacgcccg ggtgaagagc
                                                                    2220
gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgccgac
                                                                    2280
ctcatgaagc tcgccatggt gaagctcttc ccccgcctcc gggagatggg ggcccgcatg
                                                                    2340
etectecagg tegecaaega getecteetg gaggeeece aagegeggge egaggaggtg
                                                                    2400
gcggctttgg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggtg
                                                                    2460
gaggtgggga tgggggagga ctggctttcc gccaagggtc accaccacca ccaccac
                                                                    2517
```

<210> 2795

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2795

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185 190

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu 195 200 205

Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg 210 215 220

Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu 225 230 235 240

Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465	Glu	Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe

Asp	Glu	Leu	Arg 500	Leu	Pro	Ala	Leu	Lys 505	Lys	Thr	Lys	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	His	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Asn
Thr 545	Tyr	Val	Asp	Pro	Leu 550	Pro	Ser	Leu	Val	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Val 600	Ala	Glu	Ala	Gly	Trp 605	Ala	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Lys	Asp	Ile	His 640
Thr	Gln	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Pro	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Val	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
Glu	Ala 690	Val	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Val
Arg 705	Ala	Trp	Ile	Glu	Lys 710	Thr	Leu	Glu	Glu	Gly 715	Arg	Lys	Arg	Gly	Tyr 720
Val	Glu	Thr	Leu	Phe 725	Gly	Arg	Arg	Arg	Tyr 730	Val	Pro	Asp	Leu	Asn 735	Ala
Arg	Val	Lys	Ser	Val	Arg	Glu	Ala	Ala	Glu	Arg	Met	Ala	Phe	Asn	Met

740 745 750 Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 760 Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val 775 Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val 790 Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys 820 825 Gly His His His His His 835 <210> 2796 <211> 2517 <212> DNA

<220>

<223> Synthetic

<213> Artificial Sequence

<400> 2796 atgaattegg ggatgetgee cetetttgag cecaagggee gggteeteet ggtqqaegge 60 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcag agaggacggg 180 gacgcggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg 240 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cqcctcatc 300 aaggagetgg tggaeeteet ggggtteaeg egeetegagg teeegggeta egaggeggae 360 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgaq 480

540

600

gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg

gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc

ggggagaaga	cggcgaggaa	gcttctggag	gagtggggga	gcctggaagc	cctcctcaag	660
aacctggacc	ggctgaagcc	cgccatccgg	gagaagatcc	tggcccacat	ggacgatctg	720
aagctctcct	gggacctggc	caaggtgcgc	accgacctgc	ccctggaggt	ggacttcgcc	780
aaaaggcggg	agcccgaccg	ggagaggctt	agggcctttc	tggagaggct	tgagtttggc	840
agcctcctcc	acgagttcgg	ccttctggaa	agccccaagg	ccctggagga	ggccccctgg	900
cccccgccgg	aaggggcctt	cgtgggcttt	gtgctttccc	gcaaggagcc	catgtgggcc	960
gatcttctgg	ccctggccgc	cgccaggggc	ggccgcgtgc	accgggcagc	agaccccttg	1020
gcggggctaa	aggacctcaa	ggaggtccgg	ggcctcctcg	ccaaggacct	cgccgtcttg	1080
gcctcgaggg	aggggctaga	cctcgtgccc	ggggacgacc	ccatgctcct	cgcctacctc	1140
ctgggcccct	cgaacaccac	ccccgagggg	gtggcgcggc	gctacggggg	ggagtggacg	1200
gaggacgccg	cccaccgggc	cctcctctcg	gagaggctcc	atcggaacct	ccttaagcgc	1260
ctcgaggggg	aggagaagct	cctttggctc	taccacgagg	tggaaaagcc	cctctcccgg	1320
gtcctggccc	atatggaggc	caccggggta	cggctggacg	tggcctacct	tcaggccctt	1380
tccctggagc	ttgcggagga	gatccgccgc	ctcgaggagg	aggtcttccg	cttggcgggc	1440
caccccttca	acctcaactc	ccgggaccag	ctggaaaggg	tgctctttga	cgagcttagg	1500
cttcccgcct	tgaagaagac	gaagaagaca	ggcaagcgct	ccaccagcgc	cgcggtgctg	1560
gaggccctac	gggaggccca	ccccatcgtg	gagaagatcc	tccagcaccg	ggagctcacc	1620
aagctcaaga	acacctacgt	ggaccccctc	ccaagcctcg	tccacccgag	gacgggccgc	1680
ctccacaccc	gcttcaacca	gacggccacg	gccacgggga	ggcttagtag	ctccgacccc	1740
aacctgcaga	acatccccgt	ccgcaccccc	ttgggccaga	ggatccgccg	ggccttcgtg	1800
gccgaggcgg	gttgggcgtt	ggtggccctg	gactatagcc	agatagagct	ccgcgtcctc	1860
gcccacctct	ccggggacga	aaacctgatc	agggtcttcc	aggagggaa	ggacatccac	1920
acccagaccg	caagctggat	gttcggcgtc	ccccggagg	ccgtggaccc	cctgatgcgc	1980
cgggcggcca	agacggtgaa	cttcggcgtc	ctctacggca	tgtccgccca	taggctctcc	2040
caggagcttg	ccatccccta	cgaggaggcg	gtggccttta	tagagcgcta	cttccaaagc	2100
ttccccaagg	tgcgggcctg	gatagaaaag	accctggagg	aggggaggaa	gcggggctac	2160
gtggaaaccc	tcttcggaag	aaggcgctac	gtgcccgacc	tcaacgcccg	ggtgaagagc	2220
gtcagggagg	ccgcggagcg	catggccttc	aacatgcccg	tccagggcac	cgccgccgac	2280
ctcatgaagc	tcgccatggt	gaagctcttc	ccccgcctcc	gggagatggg	ggcccgcatg	2340
ctcctccagg	tcgccaacga	gctcctcctg	gaggcccccc	aagcgcgggc	cgaggaggtg	2400
gcggctttgg	ccaaggaggc	catggagaag	gcctatcccc	tegeegtgee	cctggaggtg	2460

<210> 2797

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2797

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 25

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe

Ala Lys Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Ala Val Ile

Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr Gly

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu 100 105

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 155

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg

Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His

014	141	435	275	110	Leu	501	440	vai	Deu	ліа	1115	445	GIU	AIG	1111
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465	Glu	Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Ala	Leu	Lys 505	Lys	Thr	Lys	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	His	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Asn
Thr 545	Tyr	Val	Asp	Pro	Leu 550	Pro	Ser	Leu	Val	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Val 600	Ala	Glu	Ala	Gly	Trp 605	Ala	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Lys	Asp	Ile	His 640
Thr	Gln	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Pro	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Val	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser	Ala	His	Arg	Leu	Ser	Gln	Glu	Leu	Ala	Ile	Pro	Tyr	Glu

675 680 685

Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Asn Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765

Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val 785 790 795 800

Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Gly His His His His His His 835

<210> 2798

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2798

atgaattegg ggatgetgee cetetttgag eccaagggee gggteeteet ggtggaegge 60 caccacetgg ectaeegea etteeaegee etgaagggee teaeeaega eeggggggag 120

ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 gacgcggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg 240 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 aaggagetgg tggaceteet ggggtteaeg egeetegagg teeegggeta egaggeggae 360 gacgtcctgg ccaccctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480 gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 aageteteet gggaeetgge caaggtgege acegaeetge eeetggaggt ggaettegee 780 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccttgg 900 cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960 gatettetgg ceetggeege egecagggge ggeegegtge acegggeage agacecettg 1020 gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140 ctgggcccct cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200 gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260 ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320 gtcctggccc atatggaggc caccggggta cggctggacg tggcctacct tcaggccctt 1380 tecetggage ttgeggagga gateegeege etegaggagg aggtetteeg ettggeggge 1440 caccccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500 cttcccgcct tgaagaagac gaagaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560 gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620 aageteaaga acacetaegt ggaceeete ecaageeteg tecaeeegag gacgggeege 1680 ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740 aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcgtg 1800 gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860 gcccacctct ccggggacga aaacctgatc agggtcttcc aggaggggaa ggacatccac 1920 acccagaccg caagetggat gttcggcgtc cccccggagg ccgtggaccc cctgatgcgc 1980

cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccqccca taqqctctcc 2040 caggagettg ccatecceta egaggaggeg gtggeettta tagagegeta ettecaaage 2100 ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160 gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacgcccg ggtgaagagc 2220 gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280 ctcatgaagc tcgccatggt gaagctcttc ccccgcctcc gggagatggg ggcccgcatg 2340 ctcctccagg tcgccaacga gctcctcctg gaggcccccc aagcgcgggc cgaggaggtg 2400 gcggctttgg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggtg 2460 gaggtgggga tgggggagga ctggctttcc gccaagggtc accaccacca ccaccac 2517

<210> 2799

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2799

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 60

Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu 100 105 110

Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Thr 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu

Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465	Glu	Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Ala	Leu	Lys 505	Lys	Thr	Lys	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	His	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Asn
Thr 545	Tyr	Val	Asp	Pro	Leu 550	Pro	Ser	Leu	Val	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Val 600	Ala	Glu	Ala	Gly	Trp 605	Ala	Leu	Val
Ala	Leu	Asp	Tyr	Ser	Gln	Ile	Glu	Leu	Arg	Val	Leu	Ala	His	Leu	Ser

610 615 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His 625 635 635

Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp 645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr 660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 685

Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Asn Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 785

Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val 785 790 795 800

Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Gly His His His His His 835

<210> 2800

<211> 2517

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2800 atgaattegg ggatgetgee cetetttgag eccaagggee gggteeteet ggtggaegge 60 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggag 120 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 gacgcggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg 240 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac 360 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 acegeegaca aagacettta eeageteett teegacegea teeaegteet eeaceeegag 480 gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 ggggagaaga cggcgctcaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 aageteteet gggaeetgge caaggtgege aeegaeetge eeetggaggt ggaettegee 780 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900 cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960 gatettetgg ceetggeege egecagggge ggeegegtge acegggeage agacecettg 1020 gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140 ctgggcccct cgaacaccac ccccgagggg gtggcgcgc gctacggggg ggagtggacg 1200 gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260 ctcgagggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctccgg 1320 gtcctggccc atatggaggc caccggggta cggctggacg tggcctacct tcaggccctt 1380 tccctggagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440 caccccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500 cttcccgcct tgaagaagac gaagaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560

gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620 aagctcaaga acacctacgt ggaccccctc ccaagcctcg tccacccgag gacgggccgc 1680 ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740 aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcgtg 1800 gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860 gcccacctct ccggggacga aaacctgatc agggtcttcc aggaggggaa ggacatccac 1920 acceagaceg caagetggat gtteggegte eeceeggagg cegtggacee eetgatgege 1980 cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgccca taggctctcc 2040 caggagettg ccatececta egaggaggeg gtggeettta tagagegeta ettecaaage 2100 ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160 gtggaaaccc tetteggaag aaggegetae gtgeeegaee teaacqeeeq qqtqaaqaqe 2220 gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280 ctcatgaagc tcgccatggt gaagctcttc ccccgcctcc gggagatggg ggcccgcatg 2340 ctcctccagg tcgccaacga gctcctcctg gaggcccccc aagcgcgggc cgaggaggtg 2400 gcggctttgg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggtg 2460 gaggtgggga tggggggggagga ctggctttcc gccaagggtc accaccacca ccaccac 2517

<210> 2801

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2801

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile

Val 65	Val	Phe	Asp	Ala	Glu 70	Ala	Pro	Ser	Phe	Arg 75	His	Glu	Ala	Tyr	Gly 80
Gly	Tyr	Lys	Ala	Gly 85	Arg	Ala	Pro	Thr	Pro 90	Glu	Asp	Phe	Pro	Arg 95	Gln
Leu	Ala	Leu	Ile 100	Lys	Glu	Leu	Val	Asp 105	Leu	Leu	Gly	Phe	Thr 110	Arg	Leu
Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Leu	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu

305	Ата	Pne	vaı	GIY	310	vai	Leu	ser	Arg	Lys 315	Glu	Pro	Met	Trp	A1a 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465	Glu	Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Ala	Leu	Lys 505	Lys	Thr	Lys	Lys	Thr 510	Gly	Lys
		515			Ala		520					525			
	530				Leu	535					540				
Thr 545	Tyr	Val	Asp	Pro	Leu 550	Pro	Ser	Leu	Val	His 555	Pro	Arg	Thr	Gly	Arg 560

Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Val 600	Ala	Glu	Ala	Gly	Trp 605	Ala	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Lys	Asp	Ile	His 640
Thr	Gln	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Pro	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Val	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
Glu	Ala 690	Val	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Val
Arg 705	Ala	Trp	Ile	Glu	Lys 710	Thr	Leu	Glu	Glu	Gly 715	Arg	Lys	Arg	Gly	Tyr 720
Val	Glu	Thr	Leu	Phe 725	Gly	Arg	Arg	Arg	Tyr 730	Val	Pro	Asp	Leu	Asn 735	Ala
Arg	Val	Lys	Ser 740	Val	Arg	Glu	Ala	Ala 745	Glu	Arg	Met	Ala	Phe 750	Asn	Met
Pro	Val	Gln 755	Gly	Thr	Ala	Ala	Asp 760	Leu	Met	Lys	Leu	Ala 765	Met	Val	Lys
Leu	Phe 770	Pro	Arg	Leu	Arg	Glu 775	Met	Gly	Ala	Arg	Met 780	Leu	Leu	Gln	Val
Ala 785	Asn	Glu	Leu	Leu	Leu 790	Glu	Ala	Pro	Gln	Ala 795	Arg	Ala	Glu	Glu	Val 800
Ala	Ala	Leu	Ala	Lys	Glu	Ala	Met	Glu	Lys	Ala	Tyr	Pro	Leu	Ala	Val

Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys 820 825

Gly His His His His His 835

2802 <210>

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<400>

<223> Synthetic

2802

atgaattegg ggatgetgee cetetttgag cecaagggee gggteeteet ggtggaegge 60 caccacctgg cetacegeae ettecaegee etgaagggee teaccaccag eeggggggag 120 ceggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 gacgcggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg 240 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgcctcatc 300 aaggagetgg tggaceteet ggggtteaeg egeetegagg teeegggeta egaggeggae 360 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480 gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 aageteteet gggaeetgge caaggtgege acegaeetge eeetggaggt ggaettegee 780 aaaaggcggg agcccgaccg ggaggggctt aaggcctttc tggagaggct tgagtttggc 840 agceteetee aegagttegg cettetggaa ageeecaagg ceetggagga ggeeeeetgg 900 ccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960 gatettetgg ceetggeege egecagggge ggeegegtge acegggeage agacecettg 1020

1080

geggggetaa aggaceteaa ggaggteegg ggeeteeteg eeaaggacet egeegtettg

```
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc
                                                                    1140
                                                                    1200
ctgggcccct cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc
                                                                    1260
                                                                    1320
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg
gtcctggccc atatggaggc caccggggta cggctggacg tggcctacct tcaggccctt
                                                                    1380
tecetggage ttgeggagga gateegeege etegaggagg aggtetteeg ettggeggge
                                                                    1440
cacccettca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg
                                                                    1500
cttcccgcct tgaagaagac gaagaagaca ggcaagcgct ccaccagcgc cgcggtgctg
                                                                    1560
gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc
                                                                    1620
                                                                    1680
aageteaaga acacetacgt ggaceceete ecaageeteg tecaceegag gaegggeege
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc
                                                                    1740
aacctgcaga acateceegt eegeaceeee ttgggecaga ggateegeeg ggeettegtg
                                                                    1800
gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc
                                                                    1860
gcccacctct ccggggacga aaacctgatc agggtcttcc aggaggggaa ggacatccac
                                                                    1920
acccagaccg caagetggat gttcggcgtc cccccggagg ccgtggaccc cctgatgcgc
                                                                    1980
cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgccca taggctctcc
                                                                    2040
caggagettg ccatecceta egaggaggeg gtggeettta tagagegeta ettecaaage
                                                                    2100
ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac
                                                                    2160
gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacgcccg ggtgaagagc
                                                                    2220
gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgccgac
                                                                    2280
ctcatgaagc tcgccatggt gaagctcttc ccccgcctcc gggagatggg ggcccgcatg
                                                                    2340
ctcctccagg tcgccaacga gctcctcctg gaggcccccc aagcgcgggc cgaggaggtg
                                                                    2400
geggetttgg ccaaggagge catggagaag gectateece tegeegtgee eetggaggtg
                                                                    2460
gaggtgggga tgggggagga ctggctttcc gccaagggtc accaccacca ccaccac
                                                                    2517
```

<210> 2803

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2803

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185 190

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu 195 200 205

Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg 210 215 220

Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu 225 230 235 240

Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Gly	Leu 270	Lys	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465	Glu	Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln	Leu	Glu	Arg	Val	Leu 495	Phe

Asp	Giu	Leu	500	ьец	PIO	AIa	ьeu	505	пув	IIII	гур	гуз	510	GIY	гу
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	His	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Asn
Thr 545	Tyr	Val	Asp	Pro	Leu 550	Pro	Ser	Leu	Val	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Val 600	Ala	Glu	Ala	Gly	Trp 605	Ala	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Lys	Asp	Ile	His 640
Thr	Gln	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Pro	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Val	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
Glu	Ala 690	Val	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Val
Arg 705	Ala	Trp	Ile	Glu	Lys 710	Thr	Leu	Glu	Glu	Gly 715	Arg	Lys	Arg	Gly	Tyr 720
Val	Glu	Thr	Leu	Phe 725	Gly	Arg	Arg	Arg	Tyr 730	Val	Pro	Asp	Leu	Asn 735	Ala
Arq	Val	Lys	Ser	Val	Arq	Glu	Ala	Ala	Glu	Ara	Met	Ala	Phe	Asn	Met

740	745	750
/ A D	/45	750
/ 4 0	743	/ 50

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765

Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val 785 790 795 800

Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Gly His His His His His His 835

<210> 2804

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2804

atgaattegg ggatgetgee cetetttgag eecaagggee gggteeteet ggtggaegge 60 caccacctgg cetaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120 ceggtgcagg eggtetacgg ettegecaag ageeteetea aggeeeteaa ggaggaeggg 180 gacgcggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg 240 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac 360 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgaq 480 gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600

ggggagaaga	cggcgaggaa	gcttctggag	gagtggggga	gcctggaagc	cctcctcaag	660
aacctggacc	ggctgaagcc	cgccatccgg	gagaagatcc	tggcccacat	ggacgatctg	720
aagctctcct	gggacctggc	caaggtgcgc	accgacctgc	ccctggaggt	ggacttcgcc	780
aaaaggcggg	agcccgaccg	ggagaggctt	agggcctttc	tggagaggct	tgagtttggc	840
agcctcctcc	acgagttcgg	ccttctggga	ggggagaagc	cccgggagga	ggccccctgg	900
cccccgccgg	aaggggcctt	cgtgggcttt	gtgctttccc	gcaaggagcc	catgtgggcc	960
gatcttctgg	ccctggccgc	cgccaggggc	ggccgcgtgc	accgggcagc	agaccccttg	1020
gcggggctaa	aggacctcaa	ggaggtccgg	ggcctcctcg	ccaaggacct	cgccgtcttg	1080
gcctcgaggg	aggggctaga	cctcgtgccc	ggggacgacc	ccatgctcct	cgcctacctc	1140
ctgggcccct	cgaacaccac	ccccgagggg	gtggcgcggc	gctacggggg	ggagtggacg	1200
gaggacgccg	cccaccgggc	cctcctctcg	gagaggctcc	atcggaacct	ccttaagcgc	1260
ctcgaggggg	aggagaagct	cctttggctc	taccacgagg	tggaaaagcc	cctctcccgg	1320
gtcctggccc	atatggaggc	caccggggta	cggctggacg	tggcctacct	tcaggccctt	1380
tccctggagc	ttgcggagga	gatccgccgc	ctcgaggagg	aggtcttccg	cttggcgggc	1440
caccccttca	acctcaactc	ccgggaccag	ctggaaaggg	tgctctttga	cgagcttagg	1500
cttcccgcct	tgaagaagac	gaagaagaca	ggcaagcgct	ccaccagcgc	cgcggtgctg	1560
gaggccctac	gggaggccca	ccccatcgtg	gagaagatcc	tccagcaccg	ggagctcacc	1620
aagctcaaga	acacctacgt	ggaccccctc	ccaagcctcg	tccacccgag	gacgggccgc	1680
ctccacaccc	gcttcaacca	gacggccacg	gccacgggga	ggcttagtag	ctccgacccc	1740
aacctgcaga	acatccccgt	ccgcaccccc	ttgggccaga	ggatccgccg	ggccttcgtg	1800
gccgaggcgg	gttgggcgtt	ggtggccctg	gactatagcc	agatagagct	ccgcgtcctc	1860
gcccacctct	ccggggacga	aaacctgatc	agggtcttcc	aggagggaa	ggacatccac	1920
acccagaccg	caagctggat	gttcggcgtc	ccccggagg	ccgtggaccc	cctgatgcgc	1980
cgggcggcca	agacggtgaa	cttcggcgtc	ctctacggca	tgtccgccca	taggctctcc	2040
caggagcttg	ccatccccta	cgaggaggcg	gtggccttta	tagagcgcta	cttccaaagc	2100
ttccccaagg	tgcgggcctg	gatagaaaag	accctggagg	aggggaggaa	gcggggctac	2160
gtggaaaccc	tcttcggaag	aaggcgctac	gtgcccgacc	tcaacgcccg	ggtgaagagc	2220
gtcagggagg	ccgcggagcg	catggccttc	aacatgcccg	tccagggcac	cgccgccgac	2280
ctcatgaagc	tcgccatggt	gaagctcttc	ccccgcctcc	gggagatggg	ggcccgcatg	2340
ctcctccagg	tcgccaacga	gctcctcctg	gaggcccccc	aagcgcgggc	cgaggaggtg	2400
gcggctttgg	ccaaggaggc	catggagaag	gcctatcccc	tcgccgtgcc	cctggaggtg	2460

<210> 2805

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2805

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu

5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu
100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170 175

Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Gly 290	Gly	Glu	Lys	Pro	Arg 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His

GIU	vai	435	тÀв	Pro	ьeu	ser	Arg 440	val	Leu	Ala	HIS	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465	Glu	Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Ala	Leu	Lys 505	Lys	Thr	Lys	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	His	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Asn
Thr 545	Tyr	Val	Asp	Pro	Leu 550	Pro	Ser	Leu	Val	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Val 600	Ala	Glu	Ala	Gly	Trp 605	Ala	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Lys	Asp	Ile	His 640
Thr	Gln	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Pro	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Val	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser	Ala	His	Arg	Leu	Ser	Gln	Glu	Leu	Ala	Ile	Pro	Tyr	Glu

675	680	685
0,0	000	

Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Asn Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765

Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val 785 790 795 800

Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Gly His His His His His His 835

<210> 2806

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2806

atgaattegg ggatgetgee cetetttgag eecaagggee gggteeteet ggtggaegge

60

120

caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggag

ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 240 gacgcggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 360 aaggagetgg tggaceteet ggggtteaeg egeetegagg teeegggeta egaggeggae 420 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480 540 gggtacctca tcacccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 600 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 660 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 720 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 780 aageteteet gggaeetgge caaggtgege aeegaeetge eeetggaggt ggaettegee 840 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 900 agectectee aegagttegg cettetggaa ageceeaagg ceetggagga ggeeeeetgg 960 cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 1020 gatettetgg ccetggcege etgeagggge ggcegegtge acegggeage agacecettg 1080 geggggetaa aggaeeteaa ggaggteegg ggeeteeteg ecaaggaeet egeegtettg gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140 1200 ctgggcccct cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1260 gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1320 ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1380 gtcctggccc atatggaggc caccggggta cggctggacg tggcctacct tcaggccctt 1440 tecetggage ttgeggagga gateegeege etegaggagg aggtetteeg ettggeggge 1500 caccccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1560 cttcccgcct tgaagaagac gaagaagaca ggcaagcgct ccaccagcgc cgcggtgctg gaggeeetae gggaggeeea ceceategtg gagaagatee tecageaceg ggageteace 1620 aageteaaga acacetaegt ggaceceete ecaageeteg tecaeeegag gaegggeege 1680 1740 ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcgtg 1800 gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860 gcccacctct ccggggacga aaacctgatc agggtcttcc aggaggggaa ggacatccac 1920 acccagaccg caagetggat gttcggcgtc cccccggagg ccgtggaccc cctgatgcgc 1980 cqqqcqqcca agacqgtgaa cttcggcgtc ctctacggca tgtccgccca taggctctcc 2040 2100 caggagettg ccatececta egaggaggeg gtggeettta tagagegeta ettecaaage ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160 2220 gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacgcccg ggtgaagagc 2280 gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgccgac ctcatgaagc tcgccatggt gaagctcttc ccccgcctcc gggagatggg ggcccgcatg 2340 ctcctccagg tcgccaacga gctcctcctg gaggcccccc aagcgcgggc cgaggaggtg 2400 2460 geggetttgg ccaaggagge catggagaag geetateeee tegeegtgee eetggaggtg gaggtgggga tgggggggga ctggctttcc gccaagggtc accaccacca ccaccac 2517

<210> 2807

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2807

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu 100 105 110

Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala. 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Cys	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu

Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465	Glu	Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Ala	Leu	Lys 505	Lys	Thr	Lys	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535		Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Asn
Thr 545	Tyr	Val	Asp	Pro	Leu 550	Pro	Ser	Leu	Val	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565		Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585		Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Val 600		Glu	Ala	Gly	Trp 605		Leu	Val
Ala	Leu	Asp	Tyr	Ser	Gln	Ile	Glu	Leu	Arg	Val	Leu	Ala	His	Leu	Ser

610 615 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His 625 630 635 640

Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp 645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr 660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 685

Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 780

Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val 785 790 795 800

Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val 805 810 815

Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Gly His His His His His His 835

<210> 2808

<211> 2517

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2808 60 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 120 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180 gacgcggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg 240 gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300 aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac 360 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420 480 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600 660 ggggagaaga cggcgaggaa gcttctgaag gagtggggga gcctggaagc cctcctcaag aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720 780 aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840 agcetectee aegagttegg cettetggaa agceecaagg ceetggagga ggeeceetgg 900 960 cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc gatettetgg ceetggeege egecagggge ggeegegtge acegggeage agacecettg 1020 gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080 1140 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc ctgggcccct cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200 1260 gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1320 ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg gtcctggccc atatggaggc caccggggta cggctggacg tggcctacct tcaggccctt 1380 tccctggagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440 caccccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500 cttcccgcct tgaagaagac gaagaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560 gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620 1680 aageteaaga acacetaegt ggaceceete ecaageeteg tecaceegag gaegggeege ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740 aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcgtg 1800 gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860 1920 gcccacctct ccggggacga aaacctgatc agggtcttcc aggaggggaa ggacatccac acccagaccg caagetggat gttcggcgtc cccccggagg ccgtggaccc cctgatgcgc 1980 cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgccca taggctctcc 2040 2100 caggagettg ccatececta egaggaggeg gtggeettta tagagegeta ettecaaage ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160 gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacgcccg ggtgaagagc 2220 2280 gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgccgac ctcatgaagc tcgccatggt gaagctcttc ccccgcctcc gggagatggg ggcccgcatg 2340 ctcctccagg tcgccaacga gctcctcctg gaggcccccc aagcgcgggc cgaggaggtg 2400 gcggctttgg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggtg 2460 2517 gaggtgggga tgggggggga ctggctttcc gccaagggtc accaccacca ccaccac

<210> 2809

<211> 839

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2809

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile

Val	Val	Phe	Asp	Ala	Glu	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala	Tyr	Gly
65					70					75					80

- Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95
- Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu 100 105 110
- Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125
- Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140
- Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160
- Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170 175
- Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185 190
- Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu 195 200 205
- Leu Lys Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg 210 215 220
- Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu 225 230 235 240
- Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu 245 250 255
- Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala 260 265 270
- Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu 275 280 285
- Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu 290 295 300

Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	115 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Gly	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465		Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500		Pro	Ala	Leu	Lys 505		Thr	Lys	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515		Ala	Ala	Val	Leu 520		Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530		Lys	Ile	. Leu	Gln 535		Arg	Glu	Leu	Thr 540		Leu	Lys	Asn
Thr 545	_	· Val	Asp	Pro	Leu 550		Ser	Leu	Val	His 555		Arg	Thr	Gly	Arg 560

Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Val 600	Ala	Glu	Ala	Gly	Trp 605	Ala	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Lys	Asp	Ile	His 640
Thr	Gln	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Pro	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Val	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
Glu	Ala 690	Val	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Val
Arg 705	Ala	Trp	Ile	Glu	Lys 710	Thr	Leu	Glu	Glu	Gly 715	Arg	Lys	Arg	Gly	Tyr 720
Val	Glu	Thr	Leu	Phe 725	Gly	Arg	Arg	Arg	Tyr 730		Pro	Asp	Leu	Asn 735	Ala
Arg	Val	Lys	Ser 740	Val	Arg	Glu	Ala	Ala 745	Glu	Arg	Met	Ala	Phe 750	Asn	Met
Pro	Val	Gln 755		Thr	Ala	Ala	Asp 760	Leu	Met	Lys	Leu	Ala 765	Met	Val	Lys
Leu	Phe 770	Pro	Arg	Leu	Arg	Glu 775		Gly	Ala	Arg	Met 780	Leu	Leu	Gln	Val
Ala 785		Glu	Leu	Leu	Leu 790	Glu	Ala	Pro	Gln	Ala 795		Ala	Glu	Glu	Val 800
Ala	Ala	Leu	Ala	Lys	Glu	Ala	Met	Glu	Lys	Ala	Tyr	Pro	Leu	Ala	Val

Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Gly His His His His His His 835

<210> 2810

<211> 2520

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2810 atgaattcgg aggcgatgct gcccctcttt gagcccaagg gccgggtcct cctggtggac 60 ggccaccacc tggcctaccg caccttcttt gccctgaagg gcctcaccac cagccggggg 120 180 gageeggtge aggeggteta eggettegee aagageetee teaaggeeet eagagaggae ggggacgcgg tgatcgtggt ctttgacgcc gaggccccct ccttccgcca cgaggcctac 240 300 ggggggtaca aggcgggccg ggccccacg ccggaggact ttccccggca actcgcctc atcaaggagc tggtggacct cctggggttc acgcgcctcg aggtcccggg ctacgaggcg 360 420 gacgacgtcc tggccaccct ggccaagaag gcggaaaagg agggctacga ggtccgcatc 480 ctcaccgccg acaaagacct ttaccagctc ctttccgacc gcatccacgt cctccacccc 540 gaggggtacc tcatcacccc ggcctggctt tgggaaaagt acggcctgag gcccgaccag tgggccgact accgggccct gaccggggac gagtccgaca accttcccgg ggtcaagggc 600 660 atcggggaga agacggcgct caagcttctg gaggagtggg ggagcctgga agccctcctc 720 aagaacctgg accggctgaa gcccgccatc cgggagaaga tcctggccca catggacgat ctgaagctct cctgggacct ggccaaggtg cgcaccgacc tgcccctgga ggtggacttc 780 840 gccaaaaggc gggagcccga ccgggagggg cttaaggcct ttctggagag gcttgagttt 900 ggcagcctcc tccacgagtt cggccttctg ggaggggaga agccccggga ggaggccccc 960 tggccccgc cggaaggggc cttcgtgggc tttgtgcttt cccgcaagga gcccatgtgg gccgatcttc tggccctggc cgcctgcagg ggcggccgcg tgcaccgggc agcagacccc 1020 ttggcggggc taaaggacct caaggaggtc cggggcctcc tcgccaagga cctcgccgtc 1080 ttggcctcga gggagggct agacctcgtg cccggggacg accccatgct cctcgcctac 1140 1200 ctcctgggcc cctcgaacac caccccgag ggggtggcgc ggcgctacgg gggggagtgg acggaggacg ccgcccaccg ggccctcctc tcggagaggc tccatcggaa cctccttaag 1260 cgcctcgagg gggaggagaa gctcctttgg ctctaccacg aggtggaaaa gcccctctcc 1320 1380 cgggtcctgg cccatatgga ggccaccggg gtacggctgg acgtggccta ccttcaggcc ctttccctgg agcttgcgga ggagatccgc cgcctcgagg aggaggtctt ccgcttggcg 1440 1500 ggccacccct tcaacctcaa ctcccgggac cagctggaaa gggtgctctt tgacgagctt 1560 aggetteceg cettgaagaa gacgaagaag acaggeaage getecaceag egeegeggtg ctggaggccc tacgggaggc ccaccccatc gtggagaaga tcctccagca ccgggagctc 1620 1680 accaagetea agaacaceta egtggacece eteccaagee tegtecacee gaggaeggge 1740 cgcctccaca cccgcttcaa ccagacggcc acggccacgg ggaggcttag tagctccgac cccaacctgc agaacatccc cgtccgcacc cccttgggcc agaggatccg ccgggccttc 1800 1860 gtggccgagg cgggttgggc gttggtggcc ctggactata gccagataga gctccgcgtc ctcgcccacc tctccgggga cgaaaacctg atcagggtct tccaggaggg gaaggacatc 1920 cacacccaga ccgcaagctg gatgttcggc gtccccccgg aggccgtgga ccccctgatg 1980 2040 cgccgggcgg ccaagacggt gaacttcggc gtcctctacg gcatgtccgc ccataggctc 2100 tcccaggagc ttgccatccc ctacgaggag gcggtggcct ttatagagcg ctacttccaa agcttcccca aggtgcgggc ctggatagaa aagaccctgg aggaggggag gaagcggggc 2160 tacgtggaaa ccctcttcgg aagaaggcgc tacgtgcccg acctcaacgc ccgggtgaag 2220 2280 agcgtcaggg aggccgcgga gcgcatggcc ttcaacatgc ccgtccaggg caccgccgcc gacctcatga agctcgccat ggtgaagctc ttcccccgcc tccgggagat gggggcccgc 2340 2400 atgctcctcc aggtcgccaa cgagctcctc ctggaggccc cccaagcgcg ggccgaggag gtggcggctt tggccaagga ggccatggag aaggcctatc ccctcgccgt gcccctggag 2460 gtggaggtgg ggatgggga ggactggctt tccgccaagg gtcaccacca ccaccaccac 2520

<210> 2811

<211> 840

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

	^	^		$\overline{}$	$\overline{}$	-	-
<41	U	U):	>	2	n	-1	

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Ala Val 50 60

Ile Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr 65 70 75 80

Gly Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg 85 90 95

Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg 100 105 110

Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu Ala 115 120 125

Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp 130 140

Lys Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro 145 150 155 160

Glu Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu 165 170 175

Arg Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser 180 185 190

Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu Lys 195 200 205

Leu Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp 210 215 220

Arg Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp 225 230 235 240

Leu	Lys	Leu	Ser	Trp 245	Asp	Leu	Ala	Lys	Val 250	Arg	Thr	Asp	Leu	Pro 255	Leu
Glu	Val	Asp	Phe 260	Ala	Lys	Arg	Arg	Glu 265	Pro	Asp	Arg	Glu	Gly 270	Leu	Lys
Ala	Phe	Leu 275	Glu	Arg	Leu	Glu	Phe 280	Gly	Ser	Leu	Leu	His 285	Glu	Phe	Gly
Leu	Leu 290	Gly	Gly	Glu	Lys	Pro 295	Arg	Glu	Glu	Ala	Pro 300	Trp	Pro	Pro	Pro
Glu 305	Gly	Ala	Phe	Val	Gly 310	Phe	Val	Leu	Ser	Arg 315	Lys	Glu	Pro	Met	Trp 320
Ala	Asp	Leu	Leu	Ala 325	Leu	Ala	Ala	Cys	Arg 330	Gly	Gly	Arg	Val	His 335	Arg
Ala	Ala	Asp	Pro 340	Leu	Ala	Gly	Leu	Lys 345	Asp	Leu	Lys	Glu	Val 350	Arg	Gly
Leu	Leu	Ala 355	Lys	Asp	Leu	Ala	Val 360	Leu	Ala	Ser	Arg	Glu 365	Gly	Leu	Asp
Leu	Val 370	Pro	Gly	Asp	Asp	Pro 375	Met	Leu	Leu	Ala	Tyr 380	Leu	Leu	Gly	Pro
Ser 385	Asn	Thr	Thr	Pro	Glu 390	Gly	Val	Ala	Arg	Arg 395	Tyr	Gly	Gly	Glu	Trp 400
Thr	Glu	Asp	Ala	Ala 405	His	Arg	Ala	Leu	Leu 410		Glu	Arg	Leu	His 415	Arg
Asn	Leu	Leu	Lys 420		Leu	Glu	Gly	Glu 425	Glu	Lys	Leu	Leu	Trp 430	Leu	Tyr
His	Glu	Val 435		Lys	Pro	Leu	Ser 440		Val	Leu	Ala	His 445	Met	Glu	Ala
Thr	Gly 450		Arg	Leu	Asp	Val 455		Tyr	Leu	. Gln	Ala 460		Ser	Leu	Glu
Leu 465		Glu	Glu	Ile	Arg 470		Leu	Glu	Glu	Glu 475		Phe	Arg	Leu	Ala 480
Gly	His	Pro	Phe	Asn 485		Asn	Ser	Arg	Asp		Leu	Glu	Arg	Val 495	

Pne	Asp	GIu	ьеи 500	Arg	Leu	Pro	Ala	505	ьуѕ	гуѕ	IIII	пув	510	TIII	GIY
Lys	Arg	Ser 515	Thr	Ser	Ala	Ala	Val 520	Leu	Glu	Ala	Leu	Arg 525	Glu	Ala	His
Pro	Ile 530	Val	Glu	Lys	Ile	Leu 535	Gln	His	Arg	Glu	Leu 540	Thr	Lys	Leu	Lys
Asn 545	Thr	Tyr	Val	Asp	Pro 550	Leu	Pro	Ser	Leu	Val 555	His	Pro	Arg	Thr	Gly 560
Arg	Leu	His	Thr	Arg 565	Phe	Asn	Gln	Thr	Ala 570	Thr	Ala	Thr	Gly	Arg 575	Leu
Ser	Ser	Ser	Asp 580	Pro	Asn	Leu	Gln	Asn 585	Ile	Pro	Val	Arg	Thr 590	Pro	Leu
Gly	Gln	Arg 595	Ile	Arg	Arg	Ala	Phe 600	Val	Ala	Glu	Ala	Gly 605	Trp	Ala	Leu
Val	Ala 610	Leu	Asp	Tyr	Ser	Gln 615	Ile	Glu	Leu	Arg	Val 620	Leu	Ala	His	Leu
Ser 625	Gly	Asp	Glu	Asn	Leu 630	Ile	Arg	Val	Phe	Gln 635	Glu	Gly	Lys	Asp	Ile 640
His	Thr	Gln	Thr	Ala 645	Ser	Trp	Met	Phe	Gly 650	Val	Pro	Pro	Glu	Ala 655	Val
Asp	Pro	Leu	Met 660	Arg	Arg	Ala	Ala	Lys 665	Thr	Val	Asn	Phe	Gly 670	Val	Leu
Tyr	Gly	Met 675		Ala	His	Arg	Leu 680	Ser	Gln	Glu	Leu	Ala 685	Ile	Pro	Tyr
Glu	Glu 690		Val	Ala	Phe	Ile 695		Arg	Tyr	Phe	Gln 700		Phe	Pro	Lys
705					710					715					720
-	· Val			725					730					735	
Ala	Arg	Val	Lys	Ser	Val	Arg	Glu	. Ala	Ala	Glu	. Arg	Met	. Ala	Phe	Asr

Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val 755 760 765

Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln 770 780

Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu 785 790 795 800

Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala 805 810 810

Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala 820 825 830

Lys Gly His His His His His His 835 840

<210> 2812

<211> 2520

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2812 atgaattogg aggogatgot goccotottt gagoccaagg googggtoot cotggtggac 60 ggccaccacc tggcctaccg caccttcttt gccctgaagg gcctcaccac cagccggggg 120 gagccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct cagagaggac 180 ggggacgcgg tgatcgtggt ctttgacgcc gaggccccct ccttccgcca cgaggcctac 240 ggggggtaca aggcgggccg ggccccacg ccggaggact ttccccggca actcgccctc 300 atcaaggagc tggtggacct cctggggttc acgcgcctcg aggtcccggg ctacgaggcg 360 gacgacgtcc tggccaccct ggccaagaag gcggaaaagg agggctacga ggtccgcatc 420 ctcaccgccg acaaagacct ttaccagctc ctttccgacc gcatccacgt cctccacccc 480 gaggggtacc tcatcacccc ggcctggctt tgggaaaagt acggcctgag gcccgaccag 540 tgggccgact accgggccct gaccggggac gagtccgaca accttcccgg ggtcaagggc 600 atcggggaga agacggcgct caagcttctg aaggagtggg ggagcctgga agccctcctc 660 720 aagaacctgg accggctgaa gcccgccatc cgggagaaga tcctggccca catggacgat ctgaagetet eetgggaeet ggecaaggtg egeacegaee tgeeeetgga ggtggaette 780 gccaaaaggc gggagcccga ccgggagggg cttaaggcct ttctggagag gcttgagttt 840 900 ggcagcctcc tccacgagtt cggccttctg ggaggggaga agccccggga ggaggccccc tggccccgc cggaaggggc cttcgtgggc tttgtgcttt cccgcaagga gcccatgtgg 960 1020 geogatette tggeeetgge egeetgeagg ggeggeegeg tgeaeeggge ageagaeeee 1080 ttggcggggc taaaggacct caaggaggtc cggggcctcc tcgccaagga cctcgccgtc ttggcctcga gggagggct agacctcgtg cccggggacg accccatgct cctcgcctac 1140 1200 ctcctgggcc cctcgaacac caccccgag ggggtggcgc ggcgctacgg gggggagtgg 1260 acggaggacg ccgcccaccg ggccctcctc tcggagaggc tccatcggaa cctccttaag cgcctcgagg gggaggagaa gctcctttgg ctctaccacg aggtggaaaa gcccctctcc 1320 1380 cgggtcctgg cccatatgga ggccaccggg gtacggctgg acgtggccta ccttcaggcc 1440 ctttccctgg agcttgcgga ggagatccgc cgcctcgagg aggaggtctt ccgcttggcg 1500 ggccacccct tcaacctcaa ctcccgggac cagctggaaa gggtgctctt tgacgagctt 1560 aggetteceg cettgaagaa gacgaagaag acaggeaage getecaceag egeegeggtg ctggaggccc tacgggaggc ccaccccatc gtggagaaga tcctccagca ccgggagctc 1620 accaagetea agaacaceta egtggaceee eteccaagee tegtecacee gaggaeggge 1680 cgcctccaca cccgcttcaa ccagacggcc acggccacgg ggaggcttag tagctccgac 1740 cccaacctgc agaacatccc cgtccgcacc cccttgggcc agaggatccg ccgggccttc 1800 gtggccgagg cgggttgggc gttggtggcc ctggactata gccagataga gctccgcgtc 1860 ctcgcccacc tctccgggga cgaaaacctg atcagggtct tccaggaggg gaaggacatc 1920 cacacccaga ccgcaagctg gatgttcggc gtccccccgg aggccgtgga ccccctgatg 1980 cgccgggcgg ccaagacggt gaacttcggc gtcctctacg gcatgtccgc ccataggctc 2040 2100 tcccaggagc ttgccatccc ctacgaggag gcggtggcct ttatagagcg ctacttccaa agcttcccca aggtgcgggc ctggatagaa aagaccctgg aggaggggag gaagcggggc 2160 2220 tacgtggaaa ccctcttcgg aagaaggcgc tacgtgcccg acctcaacgc ccgggtgaag 2280 agcgtcaggg aggccgcgga gcgcatggcc ttcaacatgc ccgtccaggg caccgccgcc gacctcatga agctcgccat ggtgaagctc ttcccccgcc tccgggagat gggggcccgc 2340 2400 atgetectee aggtegeeaa egageteete etggaggeee eecaagegeg ggeegaggag gtggcggctt tggccaagga ggccatggag aaggcctatc ccctcgccgt gcccctggag 2460 <210> 2813

<211> 840

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 2813

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Ala Val 50 55 60

Ile Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr 65 70 75 80

Gly Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg 85 90 95

Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg 100 105 110

Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu Ala 115 120 125

Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp 130 135 140

Lys Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro 145 150 155 160

Glu Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu 165 170 175

Arg	Pro	Asp	Gln 180	Trp	Ala	Asp	Tyr	Arg 185	Ala	Leu	Thr	GIY	190	Glu	Ser
Asp	Asn	Leu 195	Pro	Gly	Val	Lys	Gly 200	Ile	Gly	Glu	Lys	Thr 205	Ala	Leu	Lys
Leu	Leu 210	Lys	Glu	Trp	Gly	Ser 215	Leu	Glu	Ala	Leu	Leu 220	Lys	Asn	Leu	Asp
Arg 225	Leu	Lys	Pro	Ala	Ile 230	Arg	Glu	Lys	Ile	Leu 235	Ala	His	Met	Asp	Asp 240
Leu	Lys	Leu	Ser	Trp 245	Asp	Leu	Ala	Lys	Val 250	Arg	Thr	Asp	Leu	Pro 255	Leu
Glu	Val	Asp	Phe 260	Ala	Lys	Arg	Arg	Glu 265	Pro	Asp	Arg	Glu	Gly 270	Leu	Lys
Ala	Phe	Leu 275	Glu	Arg	Leu	Glu	Phe 280	Gly	Ser	Leu	Leu	His 285	Glu	Phe	Gly
Leu	Leu 290	Gly	Gly	Glu	Lys	Pro 295	Arg	Glu	Glu	Ala	Pro 300	Trp	Pro	Pro	Pro
Glu 305	Gly	Ala	Phe	Val	Gly 310	Phe	Val	Leu	Ser	Arg 315	Lys	Glu	Pro	Met	Trp 320
Ala	Asp	Leu	Leu	Ala 325	Leu	Ala	Ala	Cys	Arg 330	Gly	Gly	Arg	Val	His 335	Arg
Ala	Ala	Asp	Pro 340	Leu	Ala	Gly	Leu	Lys 345	Asp	Leu	Lys	Glu	Val 350	Arg	Gly
Leu	Leu	Ala 355	Lys	Asp	Leu	Ala	Val 360	Leu	Ala	Ser	Arg	Glu 365	Gly	Leu	Asp
Leu	Val 370	Pro	Gly	Asp	Asp	Pro 375	Met	Leu	Leu	Ala	Tyr 380	Leu	Leu	Gly	Pro
Ser 385	Asn	Thr	Thr	Pro	Glu 390	Gly	Val	Ala	Arg	Arg 395		Gly	Gly	Glu	Trp 400
Thr	Glu	Asp	Ala	Ala 405	His	Arg	Ala	Leu	Leu 410		Glu	Arg	Leu	His 415	Arg
Asn	Leu	Leu	Lys 420	_	Leu	Glu	Gly	Glu 425		Lys	Leu	Leu	Trp 430	Leu	Tyr

His	Glu	Val 435	Glu	Lys	Pro	Leu	Ser 440	Arg	Val	Leu	Ala	His 445	Met	Glu	Ala
Thr	Gly 450	Val	Arg	Leu	Asp	Val 455	Ala	Tyr	Leu	Gln	Ala 460	Leu	Ser	Leu	Glu
Leu 465	Ala	Glu	Glu	Ile	Arg 470	Arg	Leu	Glu	Glu	Glu 475	Val	Phe	Arg	Leu	Ala 480
Gly	His	Pro	Phe	Asn 485	Leu	Asn	Ser	Arg	Asp 490	Gln	Leu	Glu	Arg	Val 495	Leu
Phe	Asp	Glu	Leu 500	Arg	Leu	Pro	Ala	Leu 505	Lys	Lys	Thr	Lys	Lys 510	Thr	Gly
Lys	Arg	Ser 515	Thr	Ser	Ala	Ala	Val 520	Leu	Glu	Ala	Leu	Arg 525	Glu	Ala	His
Pro	Ile 530	Val	Glu	Lys	Ile	Leu 535	Gln	His	Arg	Glu	Leu 540	Thr	Lys	Leu	Lys
Asn 545	Thr	Tyr	Val	Asp	Pro 550	Leu	Pro	Ser	Leu	Val 555		Pro	Arg	Thr	Gly 560
Arg	Leu	His	Thr	Arg 565	Phe	Asn	Gln	Thr	Ala 570	Thr	Ala	Thr	Gly	Arg 575	Leu
Ser	Ser	Ser	Asp 580	Pro	Asn	Leu	Gln	Asn 585	Ile	Pro	Val	Arg	Thr 590	Pro	Leu
Gly	Gln	Arg 595		Arg	Arg	Ala	Phe 600		Ala	Glu	Ala	Gly 605		Ala	Leu
Val	Ala 610		Asp	Tyr	Ser	Gln 615		Glu	Leu	Arg	Val 620	Leu	Ala	His	Leu
Ser 625		Asp	Glu	Asn	Leu 630		Arg	Val	Phe	Gln 635		Gly	Lys	Asp	Ile 640
His	Thr	Gln	Thr	Ala 645		Trp	Met	Phe	Gly 650		Pro	Pro	Glu	Ala 655	Val
Asp	Pro	Leu	Met 660		Arg	Ala	Ala	. Lys 665		Val	Asn	Phe	Gly 670	Val	Leu
Tyr	Gly	Met	Ser	Ala	His	Arg	Leu	Ser	Gln	Glu	Leu	Ala	Ile	Pro	Tyr